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MENTAL AND MORAL
HEREDITY IN ROYALTY

A STATISTICAL STUDY IN HISTORY AND PSYCHOLOGY

BY

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WITH ONE HUNDRED AND FOUR PORTRAITS

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PREFACE

In the present work I hope to contribute something to our knowledge of the science of history. Perhaps there is not at present a science of history to contribute to. Some have contended that the complicated story of civilized man can never be subjected to exact analysis; and Froude has said in his essay, "The Science of History," "It often seems to me as if history was like a child's box of letters with which we can spell any word we please. We have only to pick out such letters as we want, arrange them as we like, and say nothing about those which do not suit our purpose."

But the point I wish to make at the start is this, that there is a great difference between argument and proof. Are such methods as have been largely pursued in the past by philosophers bent on discovering causation in history, worthy of the name of science? Have their systems been such as to eliminate a personal bias? Have they been impartial, cold, and statistical? Have they first sought to collect all instances bearing upon the point under discussion, and then based their conclusions on mathematical results? I think those familiar with the writings of Buckle, Montesquieu, Carlyle, Hegel, Guizot, and other philosophers of history, will agree that no such scientific methods were pursued. Until history has been subjected to statistical analysis, let us withhold our opinion as to the possibility of arriving at positive conclusions in this most difficult and perplexing field of inquiry.

History is really but a branch of biology. Some of the most difficult problems in evolution — namely, heredity, variation, and the effects of environment — are to-day just beginning to be dealt with by mathematical methods, and the results already warrant the hope that we may by carefully collecting facts, and not by mere theorizing and essay-writing, arrive at conclusions which all must agree upon. In biology such mathematical measurements have been given the name of "Biometrics," and the study "Biometry."

Let us apply to the best of our abilities such methods to history, realizing full well that we cannot in our first steps reduce our results to the seventh decimal place; but we shall at least approach more nearly to the truth than if we forever argue.

In the present research I trust I have not picked out the letters which suit my purpose and said nothing about those which do not. On the contrary, I have severely labored to first include all the facts in a systematic way; and then to analyze these facts by several different methods, including the mathematical, based on recent formulæ.

In the appendix I have given the exact references, to titles, volumes, and pages. These authorities are the basis of the gradings for individuals used throughout the work. I have attempted to locate each person in one of the biographical dictionaries, first, those in the English language, or, if necessary, in the larger foreign lexicons. Hence, if no biographical authority is attached to the person's bracketed number, we may conclude that he was not considered important enough to be given a separate article. It has been my wish to rely on at least three authorities, though in some cases, only one or two of the many works which I have utilized, give any direct state-

ments on the desired points. Every book mentioned in my bibliography printed in the appendix has been thoroughly exhausted to furnish information relative to the mental and moral traits of these royal personages, except that after getting for one personality, three or four references, which did not conflict, I then stopped. Furthermore, these are all the sources that have been utilized, so my work is only a report of what exists in the printed records now brought together to serve the purpose of science. In the appendix one can see that some of the bracketed numbers are missing. This means that the persons bearing these numbers are in the genealogies, but that nothing, or almost nothing, has been found describing their psychic traits. If only one authority is mentioned, it means, unless an error has been made, that this alone contains the desired information.

In this way I place the basis of the whole work in the hands of my readers, so that any one doubting the truth of my assertions can easily take a few characters at random and look them up.

Although the class considered in this book includes but one small portion of mankind, it is very probable that many of these personages have been of great importance in their generation in turning the course of human affairs, and especially so in some countries and during certain periods. No attempt has been made to prove this point regarding the relative importance of the kings to the history of the countries over which they ruled, except in the case of Portugal. In the chapter dealing with this country parallel columns suggest the conclusions to be drawn in this special instance. I am at present measuring these factors more exactly in the histories of all European dominions. In so far as these men and

women *have* been important and *have* influenced the times in which they lived, the present work may lay claim to be a contribution to history.

However, the primary object of the research, the results of which lie within these pages, is to determine the proportionate share taken by heredity in the formation of mental and moral life.

A score of problems, like the negro question, self-government for the Filipinos, and practical philanthropy, await the guiding finger of science on this very cardinal point. Are our natures predetermined; or will fine and fit surroundings, just laws, hygiene, education, or, in other words, equality of opportunity, bring about the long looked for Utopia? John Graham Brooks says,* "I have rarely heard a debate between one who thought himself an individualist and one who claimed to be a socialist that did not, at bottom, turn upon the inquiry about the relative importance of man's character and that of his surroundings."

From August, 1902, to April, 1903, I published in the *Popular Science Monthly* a series of nine articles under the title "Mental and Moral Heredity in Royalty." In the present work much has been added, certain corrections made, and correlation coefficients worked out by higher mathematical methods. Chapter XVII, "The Correlation between Mental and Moral Qualities," appeared in *Popular Science Monthly* for October, 1903, almost in its present form.

DECEMBER, 1905.

* "A Socialistic Contention." International Quarterly, vol. viii, 1903. One can here find an extended discussion of this question.

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HEREDITY IN ROYALTY

CHAPTER I

This inquiry into the characteristics of royalty, of which the following pages are a summary, is an attempt to solve several interesting and important questions. First, by including all modern royal families, it tries to give a fair estimate of the mental and moral status of these privileged personages as compared to the world in general. Second, it seeks to find the influences on the individual and on the breed of that environment of rank and power in which these specially elect have lived and moved. Third, by taking a great group of interrelated human beings with known pedigrees and characteristics, it seeks to throw a little light, in the nature of facts, on the old enigma — Which is the more important, environment or heredity, or do both together somewhat fail to explain all the phenomena, and must we postulate a third ultranatural cause, working aside from biological laws, in order to account for all the varying facts of personal history and character?

It is evident that each human being has certain definite mental, moral, and physical characteristics, and that these are due to not more than three causes, heredity, environment, and free-will. The first two are generally considered to play an important part, and the third is far from being ignored by some. It is also very evident that there is but a hundred per cent of cause for human character, and whatever in our natures is due to one of these causes

takes that much from the others. It is the chief aim of these pages, by the use of a scientific method, to get an insight, rough though it may be, into the proportionate influence played by these three factors in the make-up of mental and moral life.

The other questions touched upon are the effects of inbreeding, the relation of genius to insanity and sterility, and also the relationship between the rise of a country and the character of the blood of its kings. This last has been strikingly evident in several instances, notably Spain, Portugal, and Prussia, where the prosperity of the lands has been a reflection of the ability of the rulers. Here one can trace a hidden but important cause for the condition of the country in the different combinations of ingredients of blood which have led to the individual peculiarities in the men and women who ruled over these realms and stamped their impresses upon them.

The vexing question of determining in any way the proportionate average influence taken by the three possible causes in the determination of human faculties and character can probably only be solved when we possess, on the one hand, a knowledge of the circumstances in which the individuals lived, and, on the other, a complete record of the characteristics of their ancestors and family to a reasonable degree of remoteness.

In many instances, psychologists, historians, and philosophers have observed the evident relationship between the lives and actions of men and the environment in which they lived. Even as early as Aristotle, the characteristics of the Greeks were noted as midway between the Chinese and the Egyptians, and their different relations to the climate, geography, etc., were observed and

reasoned upon. One of the most famous of recent names in this connection is that of Buckle, who attempted to reduce history to a science, and explain the actions of men according to natural laws. To his mind, food, climate, volcanoes, and other external causes, played an important part. Against Buckle stood Carlyle and many others who considered it degrading to attempt to reduce human action to mechanics; for them the great soul or "hero" was the all-important element, and history was to be considered largely as a set of biographies of great men. Mohammed, Luther, and the great kings, could not be explained as a product of the times. With Carlyle must always stand the theologians who dwell upon the greatness of the human will and the divinity of the spiritual side of man, which is supposed to raise him above his trials and make him the true lord of creation.

In more recent years an attempt has been made to show that heredity is very important in producing those geniuses whose influence is so paramount in molding the lives of others. Galton and de Candolle have met with much success in this line. Thus the three factors have all had their supporters — heredity, environment, and free-will — some would give preponderance to one and some to another, and no one knows which is the most important or influential.

Now, thanks to the researches of Galton, Pearson, and others, the proportionate amount of hereditary influence from each parent, and from each more remote ancestor, is known with considerable approximation — as far as physical traits are concerned — except as regards certain peculiar types. When, for instance, the maternal and paternal stocks differ very much from each other, or for

some other reason we have "prepotency," as in the case of albino animals, or, perhaps, when new varieties make their appearance we seem to have errors from the expected.

Still, the law may be considered virtually true when we deal with large averages, and thus, by knowing what we ought to expect from heredity alone, we may take a large number of individuals with known pedigrees, and see how closely the characters of persons correspond with what we should expect were heredity the sole cause of mental and moral peculiarities — in other words, see if the results are as certain when applied to mental traits as to the more physical and tangible qualities like eye and hair color, stature, etc. If it should be found that the human mind and moral character are subject to the laws of heredity, and with an accuracy as constant as the coloration of animals, then we may conclude that the mind and character are very strongly inherited, since coloration in animals is due to what we at present at any rate consider heredity. Of course we do not expect to find the same accuracy in dealing with psychic aspects, since every one thinks that moral traits, for instance, are much the result of environment — education, example, etc. Let us, by studying human characters and comparing them with their close blood relations, see how strong inheritance appears to be.

It is often impossible to say in any individual, how much is due to one and how much to another cause, but by taking a large number we may estimate in a rough way the proportionate reliance that is to be placed in each factor on the average.

The material on which Galton bases his "Law of the Average Contribution of Each Separate Ancestor to the

Total Inheritance of the Offspring," has been taken from several sources. In his work "Hereditary Genius," 1869, he got the first suggestion, and subsequently by using such family traits as hair and eye color, stature and artistic faculty, he increased the material to work from. Lately a breed of basset hounds has contributed to his final announcement of a definite law by which one may measure the probable make-up of the inherited qualities of a child when one knows the ancestry. Much more material has recently been added by Pearson and others.

Galton's law, based on stature and color in animals, etc., is this: Each child inherits one-half of his make-up from his parents, one-half of the remaining half from his grandparents, one-half of the remaining one-fourth from his great-grandparents, and so on to infinity. Thus each parent contributes one-fourth of the entire influence, each grandparent one-fourth of one-fourth, or one-sixteenth, each great-grandparent one-eighth of one-eighth, or one-sixty-fourth, and so on. So we see how little is the influence to be expected from heredity from one distinguished great-grandfather.

Of course, if this law holds, children must resemble their parents on the whole more closely than their grandparents, and we should expect a child to resemble in a complete way, a grandparent much less frequently than a parent, and also cousins must resemble each other much less frequently than brothers and sisters.

This is very likely the case, but there is a popular idea held by many to the contrary, or at least that cousins are very apt to resemble each other, and that children are as likely to "take after" uncles and aunts as parents. Besides, I have often seen it expressed that insanity is

more prone to skip a generation or two, or go collaterally, than to appear at once in a son or daughter. This led me to somewhat doubt Galton's law. I have had the satisfaction of making an application of Galton's "law of heredity" to the first instance that came at hand, seeing how far it gave practical results, and, at the same time, collecting a few facts bearing on such questions as the effects of inbreeding and the relation between genius and insanity and sterility.

The most interesting and even startling thing has been the ease with which heredity alone has been able to bear the brunt of explaining the general make-up of character; thus, to a great extent, leaving out the necessity of referring the rough outlines of character either to environment, or free-will, at least in the case of kings and queens, where the pedigrees are traceable. Of course, it makes the question strongly arise — Would not the same be found true in any family if the pedigree were discoverable?

But pedigrees of human beings are the rarest things in the world.* Many a man has a family tree, or can trace back his ancestry in the male line even to the Norman conquest, and this, of course, is of practically no use scientifically; but the number of families who have a complete pedigree and a knowledge of the mental and physical condition of *all* ancestors to even the third generation, must be exceedingly small. It is really surprising, even in royalty, the difficulty of obtaining any information on the maternal side. In fact, the late Queen of England may be said to have known nothing of two of her own great-grandparents. At least, I can say with consider-

* Wherever I use the word pedigree in these pages I mean a genealogical chart worked out in all the ascending ancestral lines, maternal as well as paternal.

able certainty, that there is absolutely nothing written about one of them, the Countess of Reuss-Ebersdorf, and I could find nothing in this country about the other, Count Henry XXIV, of Reuss-Ebersdorf. It was only after many days of search in the British Museum that I was able to unearth anything at all, and then it was just one word. All this shows how little attention has been paid to heredity in the biological sense, and how little people have realized on what their future family welfare depends.

Heredity has always been prized and partial pedigrees maintained, but the reason has not been scientific, it has been social. The methods employed by Galton and Candolle to prove the hereditary nature of genius have been open to more than one objection. By taking biographical dictionaries of eminent men and then searching for their relatives, who were also distinguished, they were liable to the conscious or unconscious selection of cases which would prove their point. This seems evident in many places. For instance, Galton's chapter on literary men is open to the objection which he himself points out, that it is so difficult to say who is eminent in literature and who is not. "Mere popular fame may soon go. A man of fair ability in literature turns out a great deal of good work. There is always a chance that some of it may attain a reputation very far superior to its real merits because the author may have something to narrate which the world wants to hear, or he may have had particular experiences which qualify him to write works of fiction, or otherwise to throw out views singularly apposite to the wants of the time, but of no importance in after years. Here also fame misleads."

Therefore, Galton made use of no system in the selection of his cases, and one might say that he showed a preference for those who had eminent relatives. He inquired into the kinships of thirty-seven literary men, and found nineteen who did not appear to have eminent relatives. Many might think this list far from complete. And there certainly is no very exact way of deciding who should enter such a list of eminent literary men and who should not. The same applies to the list of poets.

In his supplementary list of great statesmen of various periods and countries, it is strange he should have mentioned but one American, and that John Adams. John Adams was not conspicuously our greatest statesman, as this might indicate. Still, Galton takes him, apparently, because he *was* distinguished, and had a distinguished son and grandson.

Another of the chief objections to Galton's same work, is the element of family patronage. J. H. Nisbet, in his work on "Marriage and Heredity," writes that "Not only are a large proportion of Galton's eminent men mediocrities, but in his mistaken zeal for making out a case that writer seems to have ignored the influence of family patronage and other fortuitous sources of social or official distinction." This idea that patronage, education, encouragement, and example, are the real causes why sons frequently emulate their fathers, may be well-contended, and the influence that makes the second judge by the same name sit on the bench may be social as much as physiological. But this and the other objections cannot be raised against the evidence contained within these pages.

In order to get material for such a study, one might

take individuals at random, and then their brothers and sisters and all their ancestors to a reasonable degree of remoteness, say all the great-grandparents, which would give eighty-seven and one-half per cent of the entire influence. This would be extremely difficult, as it is almost impossible to verify even the names of all the great-grandparents of most people, let alone their mental and moral traits. Or one might use a large number of uncles and aunts to determine the latent inheritance of the ancestry, not known in the parents. Unless one had some proper way of selecting the material, he might take instances that illustrate some theory and neglect others that do not.

The method I have employed has been to take individuals merely by blood relationship, and include every person about whom anything could be found. By doing this, I have escaped any selection of cases which illustrate a theory and at the same time know the exact blood relationship of every person to every other person. Of all families applicable to this method the royal ones offer the most favorable field, owing to the maintenance of family trees and the great interest that has always been taken in their lives and characters as found in histories, biographies and court memoirs. Besides, although all have the highest social rank, they have lived in different countries, in different centuries, and under varying circumstances, with different educations and opportunities. Their peculiar positions make it unwise to compare them with men at large; but, having a great number, we can properly compare them with each other and judge them according to a standard of their own.

Galton in his "Hereditary Genius" purposely avoided

royalty, because, as he says, the qualities that make a great king are not the same as those which form genius in general. In this work it is no drawback, since here I have gone with more pains into the question of intellect and actual achievements, and a man is not given the same rank for being a wise and successful ruler that he is for great and brilliant creative achievements. *The adjectives that are used by biographers and historians are the basis of the estimate*, and by this standard William I, of Germany, would not rank with Frederick the Great, since one does not find the same admiration expressed for his intellect. (See *infra* under the heading *Grading Intellect.*)

By taking down every individual met in every degree of blood relationship and also everything in the nature of a characterization or adjective applied to him, I have been able to verify or check the estimates, and avoid the difficulty which one might expect to arise from a lack of uniformity of opinion. It is really very easy to get a sufficiently clear idea, in a rough way, of the mental and moral status of any historical character. The accounts may vary on some points, but not much on essentials. Thus, in the case of Frederick the Great, none would question his high intellectual standing, though considerable difference of opinion would be found relative to his moral qualities, most putting him rather low. The same would apply to Napoleon, but in both these instances the interesting and important thing to be explained is the intellect, and of this we can form a sufficiently just estimate. In the same way the important fact regarding Prince Albert, consort of Queen Victoria, is his high moral tone and studious tendencies, and about these we can have no question. So that in the main,

two sufficiently accurate scales can be formed in which to place them all, one for the intellectual side and one for the moral side, some error, of course, anticipated.

Grades from (1) to (10) have been used for each class of traits, intellectual and moral, (1) being the lowest and (10) the highest, and attention has also been paid to the "law of deviation from an average," by which most people are made to range close to mediocrity, the geniuses and imbeciles being relatively few. This law is set forth in Galton's "Hereditary Genius," page 22, and is probably as true of mental stature as of physical, where it has been proved by actual measurements. (See gradings for intellect, page 19.) This consideration is of great importance in proving the inherited nature of genius and stupidity, because if after placing most of our individuals in grades (4), (5), (6), and (7), and admitting only a very few to grades (9) and (10), or to (1) and (2), we still find them to be closely related to others in their own grades, it is all the more a proof of heredity.

Besides this number I have been able (thanks to the "Genealogy" of Lehr, which contains the full pedigree, male and female, to the twelfth generation, of all the northern ruling families) to extend the number to about 3,500 related persons as a field for study of genius alone.

This book contains the names of 3,312 distinct persons, but by intermarriages and repetition the actual number is raised to 32,768. It would, of course, be a very long undertaking to look up the characters of 3,312 persons, but by using the index and Lippincott's "Biographical Dictionary" it was not hard to tell how many of the number are not mentioned at all, and, consequently, were not geniuses or worthy of grades (9) or (10). It

seems fair to assume that if a person was of noble rank (and there are practically none others in Lehr's "Genealogy") and did not distinguish himself sufficiently to gain a place in a biographical dictionary as large as Lippincott's, he could not have been very great, at least as regards outward achievements, which is the standard here employed.

The standard for grades (9) and (10) is very high indeed. It is made up of really great names, and includes few below the standard of William the Silent, Gustavus Adolphus, Peter the Great, and the Great Condé, Turenne, Maurice of Nassau, and, among the women, Isabella of Castile, Maria Theresa, Elizabeth of Palatine, and the Duchess of Longueville.

Of course, being in Lippincott's is no criterion of mental caliber in a king, so that many who are there must be at once thrown out, as, for instance, Louis XIII, XV, and XVI, of France. No one is placed in grade (9) or (10) for intellect, unless his or her name appears in Lippincott's and is also eulogized for mental endowments or distinguished achievements. There are only a few, and those are actual kings, who appear in this biographical dictionary, merely on account of their birth. They are easily detected, as here we find blame, not praise, and would be excluded by any one from the highest grades.

Occasionally, I have met with a character in the histories or large biographies who seemed to me to be worthy of rank (9) or (10), whose name is not to be found in Lippincott's. Such a person was Sophia "The Philosophical Queen," of Prussia, and grandmother of Frederick the Great, but these have been rigorously kept out, in order to make the standard as impersonal as possible.

By starting with the present king of England and including all his ancestors to four generations, and then all the other descendants of these ancestors, all their wives and their ancestors, and stretching out in every direction by this endless-chain method, taking every one about whom enough could be found to be satisfactory, I have at present obtained mental and moral descriptions of over six hundred interrelated individuals, including pretty completely the following countries of Europe: England (House of Hanover), Germany, France, the Netherlands, Spain, Portugal, Austria, Italy, Russia, Denmark, and Sweden. The period covered extends in general back to about the sixteenth century, but in the case of Spain and Portugal, to the eleventh century.

The royal families as a whole may be divided into a number of subfamilies, corresponding to the various male lines. Of course, according to the view here constantly insisted upon, the maternal lines are quite as much of consequence as the paternal; but, as some divisions have to be made somewhere, they will be made by using the family name as a heading, for the sake of clearness.

The following families have been analyzed completely and minutely; each child who reached the age of thirty or older* being included, and given a separate number, always inclosed in square brackets.

I have followed von Behr's "Genealogy of the Reigning Princely Houses of Europe," Leipzig, 1870, and by the use of this excellent and exhaustive work have been able to count the number of children who reached adult years, and should, therefore, have left records behind

* A few who only reached the twenties have also been included when they have shown very marked peculiarities.

them. Sometimes — perhaps in as much as twenty per cent of all cases — absolutely nothing can be found about a person, in spite of the fact that he or she bore the rank of prince or princess in their day. In these cases we, at least, know, that whatever their intellectual capacity may have been, their outward achievements were slight, and, according to the standard here employed, they could not be above mediocrity, even were their careers recorded. They would also probably fall not far below the mean, for I believe that actual imbecility, or strong peculiarities of any kind usually find mention somewhere. Although we can use such characters in a negative way in the study of mental inheritance, as far as moral qualities go, these had best be ignored. Such individuals, when found, will be labeled "obscure." In many families the introduction of "obscure" ancestry will be seen to account for the disappearance of high intellectual gifts. The families minutely studied are arranged in separate chapters in the following order:

CHAPTER.		
II.	England (House of Hanover)	[1]–[37]
III.	Saxe-Coburg	[38]–[59]
	Saxe-Gotha	[60]–[84]
	Saxe-Meiningen	[85]–[95]
	Reuss-Ebersdorf	[96]–[114]
IV.	Mecklenburg	[115]–[172]
V.	Brunswick	[173]–[217]
VI.	Prussia	[218]–[256]
VII.	Nassau	[257]–[321]
VIII.	Montmorency	[322]–[334]
	Condé	[335]–[362]
	Conty	[363]–[370]
IX.	Bourbons in France	[371]–[400]
	Orleans in France	[401]–[423]

CHAPTER.

X.	Spain (Old Line)	[424]–[509]
	Hapsburgs in Spain	[510]–[535]
	Bourbons in Spain and Italy	[536]–[582]
XI.	Hapsburgs in Austria	[583]–[656]
XII.	Portugal	[657]–[741]
XIII.	Russia	[742]–[767]
XIV.	Denmark	[768]–[803]
XV.	Sweden	[804]–[832]

The study of these eight hundred thirty-two characters forms the main body of the work.

All the above families are related to each other through some connecting link, and have been picked up one after another, as the endless chain has stretched out in every direction.

Besides these male lines given above, many other persons, not numbered, have come into the study by reason of being ancestors of some already included. In the subdivisions mentioned in the list above, I have usually started with some member of the family who is given prominence in the genealogies, as founder of a line, and numbered him and the adult descendants in each generation as far as the present day, but not persons now living.

Besides the numbers in the square brackets, which are used to distinguish the separate individuals, I shall ask the reader to keep in mind the meaning of three other arbitrary symbols, which are, however, simple and run through the entire book.

The marks indicative of the different grades are always inclosed in parentheses, thus, (1), (2), (3), etc., (1) being the lowest and (10) the highest grade. When a person's name is coupled with but one grade number, this number refers to the intellectual standing, unless otherwise stated.

When two numbers are used, the first refers to the intellectual grade and the second to the moral. In most places, it will be seen that the person's name appears in some such style as this : (7) (4) Louis XIV [379]. The (7) referring to his intellectual, and the (4) to his moral grade in the scale of ten. The [379] is his special number; and as these begin in the first part of the book and run continuously through, it is easy to look up the fuller account and references for each individual.

Another symbol, the black cross, x, is used to designate that the person is in one of the three lowest grades for moral qualities; and this symbol is convenient for calling attention to the distinctly bad, or vicious characters, and bringing out their relationship with others of the same type.

The other peculiarity which I wish to mention is that **bold-faced type** is used in printing the names of those who fall in the two highest grades (9) and (10) for intellect. Thus, we have (10) (1) x **Catherine II of Russia.**

It may have occurred to some of my readers that an error would be introduced into a study of this kind from the fact that in some instances, the ascribed father, as given in the genealogies, was not the real father. It is undoubtedly true that the genealogies pay no attention to court scandals. But in spite of this, I feel very confident that any error arising from this source must be slight, and that, in at least ninety-five per cent of all cases, the standard genealogies give us the truth.

Owing to the strong light of publicity in which queens have lived, it has hardly been possible for any intrigues to have escaped the notice of the writers of court

memoirs. Our own statistics, as tabulated in the grades for virtues, show that queens of questionable morality have been decidedly the exception, and these, fortunately, have not usually been ancestors of the lines subsequently studied, and, consequently, have no bearing on the question of the reliability of genealogies. In the few notorious instances where an error from this source would affect the conclusions, I have made a special notice of the fact, and have left the children of such queens out of discussion entirely.

As the value of the whole work rests upon the correctness of the grading, the methods employed to obtain these grades are given in considerable detail. If it appears later on that the writer is too much of a self-constituted judge of characters, it is to be remembered that he is only giving the opinions of others. All opinions, adjectives, and characterizations have been faithfully copied on separate sheets for each person, and then these opinions have been averaged, thus getting the truth from the mouths of many witnesses.

Modern historians and lexicographers doubtless often copy one another. To offset this, contemporary opinions have been also introduced in many cases. At all events, the evidence must stand for what it is worth. It has, when compiled after this method of averaging, a certain objective value; and the comparative perfection of the charts and correlation tables in the last chapter of the book, seem to be themselves a proof, not only of the conclusions, but also, of the comparative correctness of the grades on which they are based.

In a work of this sort, some errors, and perhaps, not a few blunders, may have been introduced, but I think

it may be fairly granted, that these will not affect the main conclusions to be derived from this research.

Grading Intellect

In placing the different individuals in the various grades (1) to (10), the following methods have been pursued.

As concerns intellectual rating, Lippincott's "Biographical Dictionary" (Thomas) was first consulted, and if the person's name appeared there, and if "eminent," "illustrious," or other adjectives praising intellect were used in describing the mental traits, and if this view was borne out by the further use of historical authorities, the individual was placed in one of the grades (9) or (10), according to his relative importance. Let us next turn to the two lowest grades (1) and (2). These are filled with the few who have been described as "imbeciles" or "fools" and have usually been considered unfit to govern, so that, in cases where the throne has fallen to them, regents have been necessarily appointed. Grade (3) has been for those who were not actually feeble-minded, but have been recognized as nonentities from the intellectual standpoint. The great majority, however, have been placed in the middle grades (4), (5), (6), and (7) according to the relative praise for mental qualities which each has received. Here the large French and German biographical dictionaries have been the chief basis for estimation, supplemented by histories and court memoirs. This leaves grade (8) for those who, we may conclude, were brilliant but at the same time not illustrious enough to be in the (9) or (10) grades.

The fact that only a pretty definite number could be

placed in any one grade, has greatly helped in the ratings. For instance, a man now in (8) might be mentioned in Lippincott's and receive high praise, so that, at first thought we should place him in grade (10). The presence of others more remarkable, and the knowledge that only a few could ultimately rest in the highest grades, may have necessitated this man's position in grade (8).

As the males have only been compared with other males, and the females with females, whatever natural difference may exist between the two sexes does not in any way confuse the work. If the female standard of intellect is lower than the male, it is at once raised to the same standard by virtue of the method employed.

The table below shows the number of persons in each sex, who, out of the total six hundred seventy-one, have been placed in each separate grade. The number falling in each grade is spoken of as the frequency.

MALES (Intellect)

Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Frequency	7	21	41	49	71	70	68	43	18	7	395

FEMALES (Intellect)

Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Frequency	2	5	10	42	87	51	39	21	12	7	276

On looking over the number of individuals in each grade, one sees that nearly a half of all concerned fall in the two middle grades (5) and (6). This exemplifies what is known as "the law of deviation from an average,"

and means that when a large number of measurements are taken of any biological characteristic and graded in a numerical series, they will fall so that proportionally more lie in the grades approaching the mean, and less and less as the measurements show extreme variation. On this view, then, in any homogeneous group of persons, fools are as rare as geniuses, and may differ much from the mean; but the great mass of humanity is such that in any given characteristic, one is much like another. The social scale is not to be conceived of as a pyramid in which the favored few are represented at the apex, and the masses below, more and more numerous as we descend the scale; but rather as a figure like a Rugby football with the masses occupying the medium zone. Actual paupers are as rare as the very rich.

The names of those occupying the various grades for intellect are given in the following lists, arranged alphabetically, according to the family in which they were born. Those who have numbers following the name occur in the male lines of the houses minutely studied. *For references, see Appendix.*

MALES

Grade (1). (*Intellect.*)

Austria, Ferdinand I [652], resigned, 1848; *Brunswick*, Ivan [759], s. of Anthony Ulric (see Russia); *Portugal*, Alfonso VI [713]; *Russia*, Feodor [749], s. of Alexis; Ivan [751], s. of Alexis; *Spain*, Charles II [535]; Philip [544], imbecile son of Charles III.

Grade (2). (*Intellect.*)

Austria, Ernest [596], s. of Maximilian II; Francis Charles [656], father of present Emperor; *Bourbon*, Charles, Duke of Berry [387]; Louis [381], s. of Louis XIV; Philip V of Spain [386]; *Brunswick*, Augustus [214]; George [213]; *Denmark*, Christian VII [792]; *Hanover*,

Frederick Henry [21], brother of George III; *Portugal*, Henry, Cardinal [709]; *Russia*, Alexis [764], s. of Peter the Great; Peter III; *Spain*, Balthazar [532], s. of Philip IV; Carlos [523], s. of Philip II; Ferdinand IV, King of Naples [546]; Ferdinand VII [551]; Francis II, of the Two Sicilies, b. 1836; Ferdinand, Duke of Parma [558]; Francis de Paula [554]; John II, of Castile [490]; Philip III [526].

Grade (3). (*Intellect.*)

Austria, Rainer [648]; *Bourbon*, Charles X, King of France [397]; Gaston, d'Orleans [377]; Louis XIII [374]; Louis XV [388]; Philip, Duke of Orleans [380]; *Brunswick*, Charles [192]; *Condé*, Charles [355], b. 1700; Louis IV [351], b. 1692; *Denmark*, George [781], husband of Anne of England; Frederick VI [788]; Frederick [794], s. of Frederick V; *Hanover*, Frederick, Duke of York [24], s. of George III; Frederick, Prince of Wales [10]; George II [8], King of Great Britain; William, Duke of Gloucester [35], nephew of George III; William Henry, Duke of Gloucester [20]; William IV [25], King of Great Britain; *Holstein*, Charles Frederick, s. of Frederick IV; *Nassau*, William V [312]; *Portugal*, Alfonso [678], s. of Alfonso III; Alfonso, s. of John II; Ferdinand I [685], s. of Peter [684]; John III [704]; John VI [727]; Peter III [722]; Sebastian, d. 1578; *Prussia*, Frederick I [226]; George William [219]; *Russia*, Paul, Emperor; Peter II [767]; *Savoy*, Charles Emanuel IV; *Spain*, Charles IV [545]; Carlos [552], s. of Charles IV; Francis I, of the Two Sicilies [561]; Francis d'Assis; Henry IV, of Castile [493]; John I, of Castile [487]; John [579], b. 1822, s. of Carlos; Philip the Handsome [511]; Philip of Parma [539].

Grade (4). (*Intellect.*)

Austria, Charles VI, Emperor [622]; Ferdinand, Duke of Modena [636]; Francis I [627]; Francis II [640]; *Bourbon*, Anthony, King of Navarre [371]; *Brunswick*, Charles [216], b. 1804; Frederick William [215]; *Conty*, Armand [344]; *d'Este*, Hercules, b. 1727, d. 1803; *Hanover*, Adolphus, Duke of Cambridge [32]; Augustus, Duke of Sussex [31], s. of George III; Edward, Duke of Kent [27], s. of George III; George I [2], King of Great Britain; George III [18], King of Great Britain; George IV [23], King of Great Britain; *Maillé*, Urbain de Maillé de Brezé; *Medici*, Cosimo II, s. of Ferdinand I; Francis, s. of Cosimo;

Nassau, William IV [310]; *Orange*, Philip William [267], s. of William the Silent; *Palatine*, Edward, s. of Frederic V; *Portugal*, Alfonso V [695]; Antonio, nat. s. of Louis [707]; John IV [711]; Miguel [732]; Sancho II [672]; *Prussia*, Frederick William II [238]; Frederick William III [244]; Henry [249], s. of Frederick William II; *Orleans*, Louis [408]; Louis Philippe [411], 1725–1785; Louis Philippe (Égalité) [412]; *Reuss*, Henry XXIV [102]; *Russia*, Alexis [763], s. of Anthony Ulric of Brunswick; Miloslavski, Ilia; Nariskin, Cyril; Peter [762], s. of Anthony Ulric; *Savoy*, Charles Emanuel II; Charles Felix, b. 1765; Victor Amadeus II; Victor Amadeus III; Victor Emanuel I; *Saxe-Coburg*, Ernest Frederick [43]; Ferdinand [55]; Francis [48]; *Saxony*, Augustus II, s. of Augustus I; *Spain*, Alfonso XII, b. 1857; Alfonso [582] (Modern Carlists); Carlos [578] (Modern Carlists); Louis I, s. of Philip V; Louis [240], s. of Philip V; *Sweden*, Adolphus Frederick [827], King, b. 1701, d. 1771; Frederick [830], s. of above; Sigismond III [812].

Grade (5). (*Intellect.*)

Anhalt-Zerbst, Frederick, brother of Catherine II; John, b. 1621; *Austria*, Anthony [646], s. of Leopold II; Charles of Steirmark [592], b. 1540; Charles [610], s. of above; Ferdinand, Grand Duke of Tuscany [641], b. 1769; Ferdinand I, Emperor [515]; Ferdinand d'Este, b. 1781; Leopold I, Emperor [616]; Leopold II, Emperor [634]; Leopold of Tyrol [607], b. 1586, brother of Ferdinand II; Matthias [598], Emperor, b. 1557; Maximilian, s. of Ferdinand, Duke of Modena, b. 1782; Rhodolph II, Emperor [595]; *Bourbon*, Louis XVI [395]; Louis [390], s. of Louis XV; *Brandenburg*, Charles Alexander, of Anspach, d. 1806; John Frederick, of Anspach, d. 1686; *Brunswick*, Anthony Ulric [193], married Elizabeth of Russia; Charles [211], b. 1766, d. 1806; Lewis Rudolph [185], b. 1671; Maximilian [209], b. 1752; *Condé*, Louis III [347]; Louis Henry Joseph [360]; *Denmark*, Christian V [777]; Christian VI [786]; Frederick VI [795]; *Farnese*, Odoardo, b. 1612, d. 1646; Odoardo, father of Elizabeth, b. 1666, d. 1693; Ranuccio, father of Odoardo above; Ranuccio, s. of the celebrated Alexander; *Hesse*, Christian, b. 1776, d. 1814, s. of Charles; *Holstein*, Frederick IV, of Gottorp, d. 1702; *Mecklenburg*, Adolphus Frederick II [130]; Charles Leopold [132]; Charles Lewis [149]; John V [115]; *Nassau*, Ernest Casimir, of Dietz [291]; Henry Casi-

mir[297], b. 1657; William Frederick[298], b. 1652; *Oettingen*, Albert Ernest, father of Christina, wife of[185]; *Portugal*, Emanuel the Fortunate[703]; Ferdinand[694], s. of John the Great; Peter II[714]; *Prussia*, Ferdinand[237], brother of Frederick the Great; Frederick William I, Emperor[256]; Frederick William IV[249]; John Sigismond[218]; William[248], b. 1783; *Reuss*, Henry XXIX[98], of Ebersdorf; *Portugal*, John V[715]; John[693], s. of John the Great; Joseph[721], King; Peter[730], I, of Brazil; *Savoy*, Charles Albert, b. 1798, d. 1849; Humbert, late King of Italy; *Saxe-Coburg*, Ernest[54]; Francis Josiah[42]; *Saxe-Eisnach*, John George, b. 1634, d. 1686; *Saxe-Gotha*, Augustus[81]; Frederick I[62]; Frederick III[73]; Frederick IV[83]; *Saxe-Meiningen*, Bernard[64]; Ernest Lewis[85], b. 1672; *Saxony*, Albert, s. of Augustus II; Charles VII, Emperor, s. of Maximilian Emanuel, of Bavaria; Frederick Christian, s. of Augustus II; Maximilian II, Emanuel, b. 1662, d. 1726 (Bavaria); Maximilian Joseph, b. 1727, d. 1777 (Bavaria); *Spain*, Alfonso IX[451]; Ferdinand VI[536]; Ferdinand II[569], of the Two Sicilies; Ferdinand Henriques, grandfather of Ferdinand the Catholic; Philip II[518]; Philip IV[528]; *Sweden*, Gustavus IV, Adolphus[832]; Magnus[807], s. of Gustavus Vasa; *Würtemburg*, Charles Eugene, b. 1728, d. 1793.

Grade (6). (*Intellect.*)

Anhalt-Zerbst, Charles William, b. 1652; Christian August, b. 1690, s. of Catherine II, of Russia; *Austria*, Albert[600], s. of Maximilian II; Ferdinand III[611]; Ferdinand[585], b. 1529; Francis, Duke of Modena, s. of[636]; John[647], s. of Leopold II; Joseph[644]; Leopold II[634]; Leopold William[614], b. 1614; Louis[649]; Maximilian[599], b. 1558; Maximilian[637], b. 1756; Rudolph[650]; *Bourbon*, Louis, Duke of Burgundy[385]; *Brunswick*, Augustus[182]; Ernest Ferdinand[191]; Rudolph[174], b. 1627; William[217], b. 1806; *Coligny*, John, grandfather of the Admiral of France; *Condé*, Louis Anthony Henry[362] (d'Enghien); *Denmark*, Frederick II[768]; Frederick IV[783]; *Farnese*, Ottavio, d. 1586, s. of Pietro Luigi; *Hanover*, Edward, Duke of York[19]; William Augustus, Duke of Cumberland[14]; *Hesse*, Charles, s. of Frederick and Mary, d. of George II, of Great Britain; *Mecklenburg*, Adolphus Frederick I[116]; Adolphus Frederick III[72]; Adolphus Frederick IV[151]; Christian Lewis II[133]; Frederick Francis

I[139], b. 1756; *Medici*, Giovanni, b. 1498; *Nassau*, George[286], of Dillenburg, b. 1562; John [285], of Siegen, b. 1561; John William Friso[302]; *Orange*, Louis[260], brother of William the Silent; John[259], brother of William the Silent; *Palatine*, Frederick IV (Simmern); Frederick V (Simmern); Charles Lewis, s. of Frederick V; John Casimir, b. 1589, d. 1652 (Zweibrück); *Plantagenet*, Edward III, King of England; *Portugal*, Alfonso II[667]; Ferdinand, s. of[55], of Saxe-Coburg; Louis I, King[739]; Peter II, of Brazil[737]; *Orleans*, Anthony, Montpensier[415]; Anthony, Montpensier[423]; Ferdinand[417]; Louis[419]; Louis Philippe, King[414]; *Prussia*, William[234], brother of Frederick the Great; *Russia*, Michael[743], grandfather of Peter the Great; Philibert, s. of Emanuel I; *Savoy*, Victor Amadeus I; Victor Emanuel II; *Saxe-Coburg*, Frederick Josiah[47]; *Saxe-Eisnach*, John George I, b. 1634, d. 1686; *Saxe-Gotha*, Augustus[82]; Ernest II[58]; Frederick II[72]; John Ernest, b. 1658; *Saxony*, Charles, s. of Frederick Christian; Frederick Augustus, s. of Frederick Christian; *Spain*, Charles III[537]; Ferdinand I, of Aragon[489]; Ferdinand IV[471]; Henry II, of Castile[479]; Henry, s. of Francis de Paula[554]; Peter the Cruel[478]; Peter II, of Aragon, s. of Alfonso II; *Sweden*, John III[806]; *Tour*, F. Maurice, brother of the great Turenne.

Grade (7). (*Intellect.*)

Austria, Ferdinand II, Emperor[603]; Francis IV, Duke of Modena, s. of[626]; Joseph II, Emperor[629]; Maximilian II, Emperor[603]; *Bourbon*, Louis XIV[379]; Louis XVIII[396]; *Brunswick*, Anthony Ulric[177]; August[173]; Ernest Lewis[195]; Ferdinand, Albert I[178]; Ferdinand Albert II[190]; Ferdinand[196]; Frederick Augustus[205]; George William, of Lunenburg (Celle); *Coligny*, Odet, s. of Gaspard; *Condé*, Henry II[341]; Henry Julius[345]; Louis Joseph[359]; *Conty*, Louis Francis[368]; *Denmark*, Christian VIII[799]; Frederick III[776]; *Hanover*, Ernest Augustus, Elector[1]; Ernest Augustus, Duke of Cumberland[30]; *Hesse*, Philip the Magnanimous; *Lorraine*, Charles, s. of Leopold, b. 1712, d. 1780; Leopold, father of Francis I, of Austria; *Medici*, Ferdinand, s. of Cosimo the Great; *Montmorency*, Henry II[331]; *Nassau*, Frederick William Charles[317], b. 1797; William I[314], King; William II[316], King; *Orange*, William[257], father of William the Silent; *Orleans*, Francis, Joinville[421],

b. 1818; Henry, Aumale[422], b. 1822; *Portugal*, Alfonso IV, "the Brave" [682]; Alfonso III[673]; Edward[689]; Louis[707], s. of Emanuel; John, s. of John III; Peter I[684]; Peter V, King[738]; Sancho I[662]; *Prussia*, Frederick William I[227]; William I, Emperor[250]; *Russia*, Alexis[745], father of Peter the Great; *Savoy*, Charles Emanuel III; Maurice, s. Charles Emanuel I; Thomas, s. of Charles Emanuel I; *Saxe-Coburg*, Albert[59]; Leopold I[57], King of the Belgians; *Saxe-Gotha*, Ernest the Pious[60]; *Saxe-Meiningen*, Anthony Ulric[90]; *Saxony*, Augustus I, King of Poland; *Spain*, Alfonso V, s. of Bermudo II, of Leon; Alfonso VII[445], of Castile; Alfonso VIII, the Noble[450]; Alfonso X, of Castile[457]; Alfonso XI, of Castile[476]; Charles[530], s. of Philip III; Ferdinand II[449]; Ferdinand III, "the Saint" [445]; Ferdinand[531], s. of Philip III; Henry III, of Castile[488]; John, nat. s. of Philip IV; John II, of Aragon[496]; Raymond, Count of Barcelona, d. 1130; Sancho III[446], of Castile, d. 1158; Sancho IV[465], of Castile, d. 1295; *Sweden*, Charles X[818]; Charles XIII[823]; Gustavus[811], s. of Eric XIV.

Grade (8). (*Intellect.*)

Austria, Albert, s. of Charles[643], b. 1817; Charles V, Emperor[514]; Charles[632], b. 1745; Joseph I, Emperor[619]; *Brunswick*, Charles William Ferdinand[202]; William Adolphus[207]; *Buren*, Maximilian, Count of; *Burgundy*, Charles the Bold; *Coligny*, Francis (Dandelot); *Condé*, Henry I[336]; Louis I[335]; *Conty*, Francis Louis[364]; *Denmark*, Christian IV[771]; *Hesse*, William the Wise, b. 1545, d. 1597; *Montmorency*, Anne, Constable[322]; Henry I[324]; *Nassau*, Frederick[315], s. of William V; *Orange*, Frederick Henry[277], William II[278]; *Orleans*, Philip II[403] (Regent); *Palatine*, Rupert[838], famous cavalier; *Plantagenet*, John of Gaunt; *Portugal*, Henry, Count of Burgundy[657]; John II, the Perfect[700]; Peter[690], s. of John I; *Prussia*, Augustus Frederick[242], nephew of Frederick the Great; Louis[241], nephew of Frederick the Great; *Russia*, Alexander I, Czar; Constantine, s. of Paul; Feodor[742], great-grandfather of Peter the Great; Nicholas I, Czar; *Savoy*, Charles Emanuel I; *Saxe-Gotha*, Ernest II, the Astronomer[80]; *Spain*, Alfonso VI[437]; Alfonso II, of Aragon; Ferdinand I[429], b. 1065; Ferdinand the Catholic[505]; James I the Conqueror, of Aragon; Peter III, the

Great, of Aragon; Sancho II [426], s. of Garcia II; *Swabia*, Manfred, King of Sicily; *Sweden*, Eric XIV, s. of Gustavus Vasa; Charles IX, s. of Gustavus Vasa; Charles XI; *Tour*, Henry, b. 1555, Marshal of France.

Grade (9). (*Intellect.*)

Austria, Charles [643], celebrated commander; Maximilian I [510], Emperor; *Bourbon*, Henry IV [374], King of France; *Coligny*, Gaspard, great Admiral of France; *Farnese*, Alexander, celebrated general; *Orange*, Maurice [269]; William III, King of England [283]; *Portugal*, Alfonso I [658], founder of Portugal; Dennis [675], Father of his Country; Henry the Navigator [691]; *Prussia*, Henry [236], strategist, brother of Frederick the Great; *Russia*, Peter the Great [753]; *Savoy*, Eugene, illustrious commander; *Saxony*, Maurice, Elector, celebrated general; *Spain*, Don John of Austria [522], great naval commander; *Sweden*, Gustavus III [828]; Charles XII [824]; *Tour*, great Turenne.

Grade (10). (*Intellect.*)

Condé, Louis II [343], the Great Condé; *Orange*, William the Silent [258]; *Portugal*, John I, the Great [688]; *Prussia*, Frederick the Great [229] Frederick William, the Great Elector [224]; *Sweden*, Gustavus Adolphus [814]; Gustavus Vasa [804].

FEMALES

Grade (1). (*Intellect.*)

Russia, Elizabeth [758], d. of Charles Leopold; *Saxony*, Anne, second wife of William the Silent.

Grade (2). (*Intellect.*)

Portugal, Barbara [720], d. of John V; *Saxony*, Maria Josepha, d. of Charles VII (Bavaria); *Spain*, Joanna the Mad [508]; Maria Louisa [543], d. of Charles III; Maria Theresa [533], d. of Philip IV.

Grade (3). (*Intellect.*)

Augustenburg, Caroline, queen of Christian VIII, of Denmark; *Austria*, Mary Anne [615], d. of Ferdinand III; *Denmark*, Louisa Augusta [796], d. of Christian VII; *Mecklenburg*, Louisa, queen of Frederick IV, of Denmark; *Palatine*, Maria, queen of Frederick

Augustus III of Saxony; *Russia*, Anne [756], d. of Ivan; Catherine, second wife of Peter the Great; Elizabeth [766], d. of Peter the Great; *Spain*, Margaret [534], queen of Leopold I of Austria; *Sweden*, Ulrica Eleanor [825], d. of Charles XI.

Grade (4). (*Intellect.*)

Austria, Anne [594], married Philip II of Spain; Leopoldine [653], d. of Francis II; Maria Anne [621], d. of Leopold I; Marie Antoinette [638], married Louis XVI; Maria Clementina [645], d. of Leopold II; Maria Josepha [624], d. of Joseph I; Maria Theresa, b. 1801, d. 1855, d. of Ferdinand III of Tuscany; *Bourbon*, Adelaide [391], d. of Louis XV; Marie Louise, married Charles III of Parma; *Brunswick*, Elizabeth [194], wife of Frederick the Great; Louise Anne [197], d. of Ferdinand Albert II; *Condé*, Henriette [356]; Maria [350]; *Denmark*, Caroline, d. of Frederick VI; *Hanover*, Anne [11], d. of George II; Caroline [13], d. of George II; Elizabeth [29], d. of George III; Louisa [16], d. of George II; Mary [15], d. of George II; *Hesse*, Frederica Louisa, wife of Frederick William II of Prussia; *Mecklenburg*, Charlotte Frederica [145], b. 1784, of Schwerin; *Orleans*, Anne [402], married Victor Amadeus II of Savoy; Louisa [401], queen of Charles II of Spain; *Plantagenet*, Catherine, wife of Henry III of Castile; *Poland*, Maria, queen of Louis XV; *Portugal*, Constantina [681], married Ferdinand IV of Castile; Isabella [729], d. of John VI; Maria I, d. of Joseph; *Russia*, Catherine [755], d. of Ivan; Lapukhin, Eudoxia, first wife of Peter the Great; Miloslavski, Marie, first wife of Alexis; *Savoy*, Maria Pia, d. of Victor Emanuel II; *Saxony*, Amelia, queen of Charles III of Spain; *Spain*, Anne of Austria [527], married Louis XIII; Joanna, queen of Henry II (Transtamara); Leonora [498], queen of Edward I of Portugal; Leonora, queen of John I of Castile; Maria Louisa [556], d. of Ferdinand VII; Mary of Aragon [497], d. of John II; Urraca [441]; *Sweden*, Margaret Lejonhufond, wife of Gustavus Vasa; *Würtemburg*, Sophia Dorothea, married Paul of Russia.

Grade (5). (*Intellect.*)

Austria, Adelaide, d. 1855, wife of Victor Emanuel II; Elizabeth [598], d. of Maximilian II; Joanna [593], d. of Ferdinand I; Margaret [601], d. of Maximilian II; Maria Amelia [625], d. of Joseph I;

Maria Amelia[633], d. of Maria Theresa; Maria Louisa[651], d. of Francis II; *Bourbon*, Adelaide[398], b. 1759, sister of Louis XVI; Christina[376], d. of Henry IV; Louise (Frances Marie) de Blois[384], d. of Louis XIV; Louise (Adelaide), wife of Philip Egalité; Louise, d. of Charles Ferdinand, Duke of Berry; Louise Elizabeth[389], d. of Louis XV; Maria Theresa[400], d. of Louis XVI; Victoria[392], d. of Louis XV; *Brandenburg*, Anne, queen of Christian IV, of Denmark; Louise, married Ferdinand, brother of Frederick the Great; *Brunswick*, Antoinette Amelia[188], married Ferdinand Albert II; Caroline[211], d. of Charles William Ferdinand; Sophia[198], d. of Ferdinand Albert II; Theresa Natalia[200], d. of Ferdinand Albert II; *Buren*, Anne of Egmont, wife of William the Silent; *Burgundy*, Constantinia, queen of Alfonso VI, of Castile; *Condé*, Louise[352], d. of Louis III; *Conty*, Louise Henrietta[369], b. 1726; *Hanover*, Augusta[17], sister of George III; Augusta Sophia[28], d. of George III; Charlotte[36], d. of George IV; Mary[33], d. of George III; Sophia Dorothea[9],* d. of George I; *Hesse*, Charlotte, queen of Christian V, of Denmark; Christina, married Ferdinand Albert I, of Brunswick; Frederica, mother of Louisa, Queen of Prussia; Louisa, b. 1789, d. of Charles, married William, of Holstein; *Holstein*, Christina, queen of Charles IX, of Sweden; Elizabeth Juliana, died 1704, d. of Frederick I; Sophia, b. 1558, married John V, of Mecklenburg; *Mancini*, Anne, wife of Amand, of Conty; *Mecklenburg*, Charlotte[154], queen of George III, of England; Louise[158], Queen of Prussia; *Medici*, Marie, queen of Henry IV, of France; *Orleans*, Amelia, d. of the Count of Paris; Charlotte, de Valois[407]; Marie[405], Duchess of Berry; Mercedes, d. of[423], married Alfonso XII, of Spain; Philippa de Beaujolais[410]; *Palatine*, Dorothea Sophia, b. 1670, d. of Philip William; Elizabeth, d. of Frederick IV; Elizabeth Charlotte, b. 1652, Duchess of Orleans; Maria Sophia, wife of Pedro II, of Portugal; *Plantagenet*, Catherine, wife of Henry III, of Castile; *du Plessis*, Nicole, sister of Richelieu; *Poland*, Anne, wife of Ferdinand I, Emperor of Austria; Catherine, wife of John III, of Sweden; *Portugal*, Anne[733], d. of John VI; Eleanor[701], wife of John II, of Portugal; Isabella, d. of Alfonso and granddaughter of John I; Isabella, wife of John II, of Castile; Maria da Gloria[734]; Mary[683], d. of

* Should be in (7).

Alfonso IV; *Prussia,* Charlotte[251], married Nicholas I, of Russia; Louisa[230], sister of Frederick the Great; *Russia,* Catherine[760], d. of Anthony Ulric and Elizabeth of Russia; Natilia, mother of Peter the Great; *Savoy,* Christiana, d. of Victor Emanuel I, d. 1836; Joanna, queen of Charles Emanuel II; *Saxe-Hilburghausen,* Albertina, married Charles I, of Mecklenburg; *Saxony,* Josepha, wife of Louis the Dauphin[390]; Marie Anne, wife of Louis the Dauphin[381]; *Spain,* Dulce, wife of Sancho I, of Portugal; Eleanor[513], d. of Philip the Handsome; Isabella II[555]; Joanna[520], d. of Charles V; Maria Amelia[563], b. 1782, married Louis Philippe; Maria Theresa[560], d. of Ferdinand IV of Naples; Mary[508], d. of Ferdinand and Isabella; Mary[529], d. of Philip III; Mary Padilla, mistress of Peter I; Urraca, wife of Alfonso II, of Portugal; Violanta, wife of Alfonso X, of Castile; *Swabia,* Elizabeth (Beatrix), married Ferdinand III, of Castile; *Sweden,* Cecelia[810], d. of Gustavus Vasa; *Tour et Taxis,* Marie Augusta, married Charles Alexander, of Würtemburg; *Würtemburg,* Mary, married Emperor Paul, of Russia.

Grade (6). (*Intellect.*)

Anhalt-Zerbst, Dorothea, wife of Augustus[173], of Brunswick; *Austria,* Eleanor[589], d. of Ferdinand I; Elizabeth, d. of Joseph[644]; Mary Anne[612], d. of Ferdinand II; Mary Anne[628], d. of Maria Theresa; *Bourbon,* Elizabeth[375], d. of Henry IV; Elizabeth[399], d. of Louis, Dauphin[390]; *Brunswick,* Augusta[210], b. 1764, d. of Charles William Ferdinand; Charlotte[187], married Alexis, of Russia; Elizabeth[186], wife of Charles VI, Emperor ; Elizabeth Eleanor[180], d. of Anthony Ulric; Sophia Dorothea, married George I, of England; *Denmark,* Charlotte Amelia[787], d. of Frederick IV; Louise[793], d. of Frederick V; Sophia Magdalena[790], d. of Frederick V; *Hanover,* Amelia[12], d. of George II; Caroline Matilda[22], sister of George III; Victoria[37], Queen of Great Britain; Wilhelmina Amelia, married Joseph I, Emperor; *Hesse,* Charlotte Amelia, queen of Christian V, of Denmark; *Maillé de Brezé,* Clemence, wife of Louis II, of Condé; *Leiningen,* Maria Louisa, b. 1729, grandmother of Louisa, Queen of Prussia; *Montmart,* Montespan, mistress of Louis XIV; *Montmorency,* Charlotte, married Condé; *Orange,* Albertina[280], d. of Frederick Henry; Emily[270], d. of Wil-

liam the Silent; Henrietta[281], d. of Frederick Henry; Louise[279], d. of Frederick Henry; Mary[282], d. of Frederick Henry; *Oettingen*, Christine Louise, married Lewis Rudolph, of Brunswick; *Palatine*, Marie Elizabeth, b. 1721, d. Joseph Charles, of Sulzbach, married Charles Theodore; *Plantagenet*, Philippa, d. of John of Gaunt; *Portugal*, Beatrix[706], married Charles III, of Savoy; Catherine[712], married Charles II, of England; Isabella[705], married Emperor Charles V; Maria[724], d. of Joseph; Maria Francesca[731], d. of John VI; Matilda[636], d. of Sancho I; *Prussia*, Wilhelmina[239], niece of Frederick the Great; *Savoy*, Marie Louise, queen of Philip V, of Spain; *Saxe-Coburg*, Victoria[56], mother of Queen Victoria; *Saxe-Gotha*, Augusta[78]; Dorothea Louise[84]; *Saxe-Meiningen*, Charlotte[93], wife of Ernest II; *Spain*, Carlotta[549], d. of Charles IV; Caroline[566], Duchess of Berry; Louisa[559], d. of Philip, Duke of Parma; Louisa Carlotta[567], d. of Francis I, of the Two Sicilies; Margaret, b. 1847, d. of Charles III, of Parma; Maria Christina[568], queen of Ferdinand VII; Mary[519], d. of Charles V; Mary, wife of Peter II, of Aragon; *Stuart*, Elizabeth, d. of James I, of England.

Grade (7). (*Intellect.*)

Austria, Caroline[635], d. of Maria Theresa; Margaret[521], nat. d. of Charles V; Maria Elizabeth[620], d. of Leopold I; Mary, Queen of Hungary[516], d. of Philip the Handsome; *Brandenburg*, Sophia Magdalene, queen of Christian VI, of Denmark; *Brunswick*, Elizabeth Christina[206]; Sibylla Ursula[175], d. of Augustus; *Burgundy*, Mary, d. of Charles the Bold; *Coligny*, Louise, married William the Silent; *Condé*, Louise Adelaide[361], d. of Louis Joseph; *Denmark*, Ulrica Eleanor[782], d. of Frederick III; *Farnese*, Elizabeth, queen of Philip V, of Spain; *Hanover*, Charlotte Augusta[26], d. of George III; *Holstein*, Joanna Elizabeth, mother of Catherine II, of Russia; *Masovia*, Cymburga, wife of Ernest, of Austria; *Mecklenburg*, Sophia, d. of Ulric, married Frederick II, of Denmark; Sophia Elizabeth[162], wife of Augustus, of Brunswick; *Orange*, Louisa Juliana[271], d. of William the Silent; *Orleans*, Louise Adelaide[406], d. of Philip (Regent); *Portugal*, Eleanor[697], wife of Frederick III (the emperor); Maria, d. of[709], wife of Alexander Farnese; Maria Benedictina[726], d. of Joseph; Maria Theresa[728], d. of John VI; *Prussia*, Frederica

Sophia[228], of Baireuth, sister of Frederick the Great; *Reuss*, Augusta[111], d. of Henry XXIV; *Russia*, Anne, eldest d. of Peter the Great; *Saxony*, Marie Antoinette, b. 1724, d. of Charles VII (Bavaria); *Solms*, Amelia, wife of Frederick Henry, of Orange; *Spain*, Beatrix, queen of Alfonso III, of Portugal; Berengaria, of Barcelona, wife of Alfonso VII; Catherine[517], d. of Philip the Handsome; Elizabeth[557], queen of Joseph II, of Austria; Leonora de Guzman, mistress of Alfonso XI, of Castile; Marie Antoinette[564], queen of Ferdinand VII, of Spain; Sancha, queen of Ferdinand I, the Great; Violanta, queen of James I, of Aragon; *Stolburg*, Juliana, mother of William the Silent; *Sweden*, Catherine, d. of Charles IX; *Waldeck*, Amelia, b. 1640, d. 1696.

Grade (8). (*Intellect.*)

Austria, Maria Christina[630], d. of Maria Theresa; *Bourbon*, Elizabeth[409] (Orleans); Henrietta[378], d. of Henry IV; *Brandenburg*, Caroline, queen of George II, of Great Britain; *Brunswick*, Juliana[201], queen of Frederick V, of Denmark; Sophia Amelia, d. of George of Lunenburg; *d'Ernier*, Eleanor, wife of George of Celle; *Hanover*, Sophia Charlotte[5], Queen of Prussia; *Portugal*, Theresa[664], d. of Alfonso I; *Palatine*, Eleanor, d. of Philip William, and wife of Leopold I, of Austria; *Prussia*, Charlotte[231], sister of Frederick the Great; *Saxe-Meiningen*, Louise Dorothea[91]; *Spain*, Berengaria, queen, d. of Alfonso the Noble; Elvira, wife of Bermudo II; Isabella[524], d. of Philip II; Joanna Henriquez, mother of Ferdinand the Catholic; Mary, queen of Sancho IV; Saint Elizabeth, queen of Dennis, of Portugal; Theresa[444], nat. d. Alfonso VI, of Castile; *Swabia*, Constance, d. Manfred, King of Sicily, married Peter III, of Aragon; *Sweden*, Sophia[831], sister of Gustavus III.

Grade (9). (*Intellect.*)

Austria, Margaret[512], d. of Maximilian I, of Austria; Maria Theresa[626]; *Brunswick*, Anne Amelia[204], Duchess of Weimar; *Hanau*, Amelia, d. of Louis II (=Hesse-Cassel); *Navarre*, Jeanne d'Albret; *Palatine*, Elizabeth, d. of Frederick V; *Prussia*, Amelia[235], sister of Frederick the Great; *Russia*, Sophia[748], half-sister of Peter the Great; *Spain*, Blanche of Castile, married Louis VIII, of France;

Medina-Sidonia, Louisa, queen of John IV, of Portugal; *Sweden*, Christina[817], d. of Gustavus Adolphus; *Trémouille*, Charlotte, Countess Derby, granddaughter of William the Silent.

Grade (10). (*Intellect.*)

D'Angoulême, Margaret of Navarre; *Anhalt*, Catherine II, of Russia; *Bourbon*, Anne, Mademoiselle, Montpensier, d. of[377]; *Condé*, Anne[342], Duchess of Longueville; *Palatine*, Sophia Electress, d. of Frederick V; *Prussia*, Louisa Ulrica[233], Queen of Sweden; *Spain*, Isabella I[494], of Castile.

Grading Virtues

In the tables below we see the frequency in each of the ten grades for moral qualities, the males and females having been studied separately.

FEMALES

Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Frequency	7	8	18	25	59	46	26	24	18	6	237

MALES

Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Frequency	9	19	35	51	75	53	52	41	24	12	371

The term "morality" is used in its widest meaning, and under this head are included all the qualities which may count as virtues. Amiability and kindliness are included, so that only those who have received praise for many good qualities can appear in the higher grades. The highest grade (10) is for those only who have been known as altruists, or reformers, or have devoted their lives to charity, or other noble aims for the welfare of their country. It has been the aim of the writer to take only the opinions of others, following the biographical dictionaries and standard histories as far as possible.

It is, of course, difficult, indeed impossible, for any one to arrange people according to their reputed virtues in a perfectly satisfactory manner. It is, however, not as difficult as it might at first sight seem, especially if one remembers that by far the majority are to be in the mediocre grades, and the presence of some little vice or a reasonable array of good qualities is not to place a man in an extreme grade in either direction. In the case of the women the standard proved to be such that it was necessary, in order to make things balance, to place all excellent, quiet, and negative characters in a grade as low as (5) and reserve the upper grades only for those who have had a special reputation for devoting their time to some form of altruism. Those who are familiar with history and court memoirs may see how far the grading suits their particular approval, and most who read the list carefully will doubtless object to characters here and there; but I am sure that much of this will be found due to some personal bias, and an acquaintance with all the characters would result in a scheme not very different from the present. It is to be remembered that they are not arranged by the writer from a vague idea of their worth drawn from reading accounts of their lives, but are graded purely on a basis of the adjectives used in describing their traits by the best authorities, several different sources of information having been used for verification. In any case errors would likely balance.

The three lowest grades have been reserved for the distinctly vicious, those described as debauched, depraved, licentious, dissipated, cruel, or extremely unprincipled. In the three upper grades we find such descriptions as

"Adored by the people as a saint," * "Gave herself up entirely to works of piety and charity," † "Heroic virtues and rare abnegations," ‡ "By his well-known devotion to the best interests of the country he secured the confidence and esteem of all classes," § "Respect and veneration which the Russians entertained for his character." ‖

In the list following, the persons within each grade are given in the alphabetical order of the country or family name, which is followed by the Christian name. When the family name is omitted, it is the same as the preceding. The numbers in parentheses which stand before the names are the intellectual grades in each case, and those following, without brackets, refer to the total number of children who reached adult years.

Thus (*1*) *Brunswick*, Ivan[795], s. of Anthony Ulric, 0; means that he was by birth of the house of Brunswick, that he stands in grade (*1*) for intellect, and had no adult child. The intellectual grades are here coupled with the moral, and the total number of adult children given, for the sake of solving the problems contained in Chapter XVII, "The Correlation between Mental and Moral Qualities." A few have numbers in square brackets attached to assist in identification.

Grade (1). (*Virtues.*)

(*1*) *Brunswick*, Ivan[759], s. of Anthony Ulric, 0; (*3*) *Condé*, Charles[355] de Charlois, s. of Louis III, 0; (*2*) *Denmark*, Christian VII[792], 2; (*5*) *Farnese*, Ranuccio, 1569–1622, ?; (*1*) *Portugal*,

* Christine, dau. of Victor Emanuel I., of Sardinia, and first wife of Ferdinand II, of Sicily.

† Anne, de Mancini, wife of Amand, Prince of Conty.

‡ Peter II, of Portugal and Brazil, 1825–1891.

§ Leopold I, of Belgium.

‖ Feodor, the first Romanoff.

Alfonso VI[713], 0; (2) *Russia*, Alexis[764], s. of Peter the Great, 1; (2) *Spain*, Don Carlos[523], s. of Philip II, 0; (6) Peter the Cruel[478], 6; (1) Philip[544], s. of Charles III, 0; ..... (2.56) Average, 1.88.

Grade (2). (*Virtues.*)

(2) *Bourbon*, Gaston[377] d'Orleans, s. of Henry IV, 3; (3) Louis XV[388], King of France, 6; (2) *Hanover*, Frederick Henry[21], b. of George III, 0; (4) George IV[23], King of Great Britain, 1; (4) *Maillé*, Urbain, 1597–1650, 2; (8) *Medici*, Cosimo the Great, 5; (4) Francesco, 1541–1587, 4; (2) *Portugal*, Cardinal Henry, s. Emanuel, I, 0; (4) Don Miguel, s. John VI, 7; (8) *Russia*, Constantine, s. Paul I, 0; (3) Paul I, s. Catherine II, 9; (2) *Spain*, Don Balthazar, s. Philip IV, 0; (1) Charles II[535], 0; (2) Ferdinand[552], Duke of Parma, 1751–1802, 4; (5) Ferdinand II, of the Two Sicilies, 7; (3) Francis I, of the Two Sicilies, 12; (3) Henry IV, of Castile, 0; (5) Philip II[518], 4; (5) Philip IV[528], 4; ..... (3.68) Average, 3.58.

Grade (3). (*Virtues.*)

(7) *Austria*, Francis IV, Duke of Modena, 4; (6) Francis V, Duke of Modena, 0; (5) Rudolph II, Emperor, 0; (2) *Bourbon*, Charles, Duke of Berry[387], s. of Louis the Dauphin, 0; (3) Louis XIII, King of France, 2; (4) *Brandenburg*, Charles William, d. 1712, 1; (7) *Condé*, Henry Julius, s. the Great Condé, 4; (7) *Hanover*, Ernest Augustus, father of George I, 6; (3) Frederick, Duke of York, s. George III, 0; (3) Frederick, Prince of Wales, s. George II, 0; (3) George II, King of Great Britain, 7; (6) William Augustus, s. of George II, 0; (5) *Mecklenburg*, Charles Leopold, married Empress of Russia, 1; (4) *Orleans*, Louis Philippe (Égalité), 4; (8) Philip[403] (Regent), 9; (7) *Portugal*, Alfonso III, 6; (7) Alfonso IV, the Brave, 2; (3) Ferdinand, s. Peter the Rigorous, 2; (7) *Prussia*, Frederick William I, 10; (9) *Russia*, Peter the Great, 3; (2) Peter III, 1; (7) *Saxony*, Augustus I, the Strong, 2; (8) *Spain*, Charles V, Emperor of Austria, 5; (6) Ferdinand IV, of Castile, 2; (2) Ferdinand I, of the Two Sicilies, 7; (2) Ferdinand VII, King, 1784–1833, 2; (2) Francis II, of the Two Sicilies, 1; (6) Henry, 1823–1870, s. of Francis de Paula, 5; (6) Henry II (Transtamara), 1333–1379, 9; (8) James I, of Aragon (the Conqueror), 5; (3) John I,

of Castile, 2; (7) John II, of Aragon, 4; (4) Louis, s. of Philip V and Marie, 0; (7) Sancho IV, of Castile, 8; (6) *Sweden*, John III, 2; .....(5.20) Average, 3.48.

Grade (4). (*Virtues.*)

Anhalt, Frederick Augustus, b. 1734, d. 1793, 0; (7) *Austria*, Rudolph, s. of Francis Joseph, 0; (9) *Bourbon*, Henry IV[372], 9; (7) Louis XIV[379], 6; (2) Philip V, of Spain[386], 8; (4) *Brunswick*, Frederick William[215], 2; (6) *Denmark*, Frederick II, 6; (3) George[781], married Anne, Queen of England, 0; (4) *d'Este*, Hercules, b. 1727, d. 1803, 2; (10) *Condé*, Louis II, the Great[343], 1; (5) Louis Henry Joseph[360], 1; (4) *Hanover*, Edward[19], brother of George III, 0; (7) Ernest Augustus[30], s. of George III, 1; (3) William IV[25], King of England, 0; (3) *Holstein*, Charles Frederick, s. of Frederick IV, 1; (6) *Medici*, Giovanni, b. 1498, d. 1526, 1; (4) *Orange*, Philip William, s. of William the Silent, 0; (3) William V[312], 3; (4) *Orleans*, Louis Philippe[411], b. 1725, d. 1785, 2; (8) *Palatine*, Rupert, the famous cavalier, 0; (6) *Portugal*, Alfonso II, 4; (4) Alfonso V, 2; (3) Alfonso, s. of John II, 0; (4) Anthony, nat. s. of Don Louis, 6; (3) John III[704], 2; (5) John, s. of John I, 2; (5) Peter II[714], 9; (3) Peter III[722], 3; (4) Sancho II[672], 0; (10) *Prussia*, Frederick the Great[229], 0; (4) Frederick William II[238], 7; (6) William[234], 2; (8) *Savoy*, Charles Emanuel I, the Great, 9; (7) *Spain*, Alfonso VII, the Emperor, 4; (7) Alfonso X, of Castile, 6; (7) Alfonso XI, of Castile[476], 5; (3) Francis d'Assis, ?; (2) Francis de Paula[554], 10; (8) Ferdinand the Catholic[505], of Aragon, 4; (3) Don John[579], s. of Carlos, the Pretender, 2; (6) Peter II, of Aragon, 1; (3) Philip the Handsome[511], 6; (3) Philip of Parma[539], 3; (9) *Sweden*, Charles XII, 0; (7) Charles XIII, 0; (8) Eric XIV, 1; (4) Frederick[830], s. of Adolphus Frederick, 0; (9) Gustavus III, 1; (5) Gustavus IV, 4; (4) Sigismond III, 1; (5) *Würtemburg*, Charles II, Eugene, d. 1793, 0; ..... (5.27) Average, 2.49.

Grade (5). (*Virtues.*)

(4) *Austria*, Charles VI, Emperor[622], 2; (5) Ferdinand d'Este, s. of [636], 0; (4) Francis[627], husband of Maria Theresa, 10; (6)

Leopold II[634], 13; (5) Matthias, Emperor[598], 0; (9) Maximilian I, Emperor[510], 4; (3) Rainer[648], 4; (4) *Bourbon*, Anthony, King of Navarre[371], 2; (3) Charles X, of France[397], 2; (7) Louis XVIII[396], 0; (2) Louis [381], s. of Louis XIV, 1; (3) Philip, Duke of Orleans, s. of Louis XIV, 4; (7) *Brunswick*, Anthony Ulric [177], 6; (6) Augustus William, s. of above, 0; (5) Lewis Rudolph[185], 3; (8) *Burgundy*, Charles the Bold, 1; (8) *Coligny*, Francis, "Dandelot," 0; (7) *Condé*, Henry II[341], 3; (5) Louis III[347], 9; (4) *Conty*, Armand[344], s. of Henry II, Condé, 2; (5) *Denmark*, Christian V, 4; (5) Christian VI, 2; (7) Frederick III, 7; (3) Frederick V, 5; (3) Frederick, Crown Prince, s. of above, 4; (9) *Farnese*, Alexander (celebrated general); (5) Odoardo, b. 1612, d. 1646; (5) *Holstein*, Frederick IV, 1; (4) *Hanover*, George I, King of Great Britain, 2; (8) *Lancaster*, John of Gaunt, 10; (4) *Medici*, Cosimo II, 7; (8) *Montmorency*, Anne, Constable, 9; (5) *Nassau-Dietz*, Ernest Casimir[291], s. of John, 2; (7) William I, King[314], 3; (6) *Orleans*, Louis Philippe, King[414], 8; (9) *Portugal*, Alfonso I[658], 3; (3) Alfonso[678], s. of Alfonso III, 4; (9) Dennis[675], 5; (8) John II[700], 2; (4) John IV[711], 10; (3) John VI[727], 8; (7) Peter I[684], 6; (7) Sancho I[662], 14; (3) Sebastian, grandson of John III, 0; (3) *Prussia*, Frederick I, King[226], 2; (10) Frederick William[224], the Great Elector, 8; (8) Lewis Ferdinand[241], 0; (8) *Russia*, Alexander I, 0; (4) Alexis[763], s. of Anthony Ulric, 0; (1) Feodor[749], half-brother of Peter the Great, 0; (4) Miloslavski, Ilia, ?; (4) Nariskin, Cyril, ?; (8) Nicholas I, 7; (4) Peter[762], s. of Anthony Ulric, 0; (5) *Savoy*, Charles Albert, b. 1798, d. 1824, 2; (5) Humbert I, King of Italy, 1; (7) Thomas, s. of Charles Emanuel I, 4; (4) Victor Amadeus III, 9; (4) Victor Emanuel I, 4; (6) Victor Emanuel II, King of Italy, 4; (5) *Saxe-Coburg*, Ernest I[54], 0; (4) Ernest Frederick[43], 3; (5) *Saxony*, Maximilian Emanuel, b. 1662 (Bavaria), 6; (5) Maximilian III, Joseph (Bavaria), 0; (8) *Spain*, Alfonso VI[437], 4; (5) Alfonso IX[451], 5; (4) Alfonso XII, 3; (4) Alfonso, s. of Don John (Modern Carlists), 0; (4) Louis Anthony[540], s. of Philip V, 3; (2) John II, of Castile[490], 2; (2) Philip III[526], 5; (7) *Sweden*, Charles X, 1; (8) Charles XI, 3; (7) Gustavus, s. of Eric XIV, 0; (5) Magnus, s. of Gustavus Vasa, 0; ..... (5.38) Average, 3.63.

Grade (6). (Virtues.)

(2) *Austria*, Ernest[596], s. of Maximilian II, 0; (1) Ferdinand I[652], b. 1793, d. 1875, 0; (4) Ferdinand[636], Duke of Modena, 7; (2) Francis Charles[656], father of present emperor, 4; (6) Joseph[644], b. 1776, d. 1847, 5; (5) Leopold II, of Tuscany, b. 1797, d. 1870, 5; (6) Lewis[649], s. of Leopold II, 0; (6) Maximilian[637], s. of Maria Theresa, 0; (5) Maximilian, b. 1782, d. 1863, s. of Ferdinand, Duke of Modena, 0; (6) Maximilian[599], s. of Maximilian II, 0; (5) *Bourbon*, Louis, Dauphin[390], s. of Louis XV, 5; (8) *Brunswick*, Charles William Ferdinand[202], 6; (8) *Condé*, Henry I[336], 3; (8) Louis I[335], 4; (7) *Denmark*, Christian VIII, 1; (6) Frederick IV, 2; (6) *Farnese*, Ottavio, d. 1586, 4; (3) *Hanover*, William Henry[20], brother of George III, 2; (5) *Mecklenburg*, John V, father of Adolph Frederick I, 3; (8) *Montmorency*, Henry I, 5; (8) *Orange*, William II[278], 1; (6) *Orleans*, Ferdinand[417], 2; (7) Francis[421], Joinville, 2; (6) Louis[419], Nemours, 4; (6) *Palatine*, Frederick IV, 4; (6) *Palatine-Zweibrück*, John Casimir, b. 1589, d. 1652, 5; (5) *Portugal*, John V[715], 5; (5) Peter I, of Brazil[730], s. of John VI, 5; (8) *Prussia*, Augustus[242], nephew of Frederick the Great, 0; (4) Frederick William III[244], 7; (5) Frederick William IV[249], 0; (3) George William of Brandenburg[219], 3; (5) John Sigismond[218], 4; (6) William I, Emperor[250], 2; (5) *Reuss*, Henry XXIX[98], 13; (4) Henry XXIV[102], 4; (1) *Russia*, Ivan[751], half-brother of Peter the Great, 3; (7) Savoy, Charles Emanuel III, 5; (3) Charles Emanuel IV, 4; (5) *Saxe-Coburg*, Francis Josiah[42], 5; (6) *Saxony*, Charles, s. of Frederick Christian, 0; (6) Frederick Augustus, s. of Frederick Christian, 1; (5) Frederick Christian, 1722–1763, 6; (7) *Spain*, Alfonso V, s. of Bermudo II, ?; (6) Charles III[537],7; (3) Charles IV[545], 7; (6) Ferdinand I, of Aragon[489], 5; (7) Ferdinand, Cardinal[531], s. of Philip III, 0; (7) Henry III[488], of Castile, 3; (9) John, Don John of Austria[522], 0; (8) Sancho III, the Great[426], 3; (8) *Swabia*, Manfred, King of Sicily, 1; (8) *Sweden*, Charles IX, 2; ..... (5.62) Average, 3.25.

Grade (7). (Virtues.)

(6) *Anhalt*, Christian Augustus, 2; (6) *Austria*, Albert[600], s. of Maximilian II, 0; (5) Anthony[646], 0; (7) Ferdinand II, 4; (6)

Ferdinand[585], 4; (5) Ferdinand III, Grand Duke of Tuscany, b. 1769, 3; (4) Francis II, Emperor[640], d. 1835, 7; (8) Joseph I[619], 2; (7) Joseph II[629], 0; (6) Leopold William[614], s. of Ferdinand II, 0; (7) *Brunswick*, Augustus[173], 1579–1666, 6; (6) Ernest Ferdinand[191], 1682–1746, 5; (7) George William of Celle, d. 1705, 1; (6) *Condé*, Louis Anthony Henry[362], Enghien, d. 1804, 0; (7) *Conty*, Francis[368], 1717–1776, 1; (5) *Farnese*, Odoardo, s. of Ranuccio, d. 1693, 1; (4) *Hanover*, Augustus[31], s. of George III, 2; (6) Charles, s. of Ernest Augustus[1], 0; (3) William, Duke of Gloucester[35], 1776–1834, 0; (6) *Hesse*, Charles, s. of Frederick and Mary, d. of George II, of England, 5; (8) William IV, the Wise, 5; (7) *Lorraine*, Charles, brother of Francis I, of Austria, 0; (7) *Mecklenburg*, Adolphus Frederick II[130], 3; (6) Adolphus Frederick III[147], 0; (6) *Orange*, Louis, brother of William the Silent, 0; (8) Frederick Henry[277], s. of William the Silent, 5; (6) *Orleans*, Anthony[423], Montpensier, 7; (7) Henry[422], Aumale, 1; (4) Louis[408], s. of Philip the Regent, 1; (6) *Palatine*, Frederick V, 8; (5) *Portugal*, Emanuel the Fortunate[703], 7; (6) Ferdinand, s. of[55], and husband of Maria da Gloria, 4; (7) John, d. 1554, s. of John III, 0; (6) Louis I[739], King, 2; (8) Peter[690], s. of John I, 6; (5) *Prussia*, Ferdinand[237], 0; (6) *Savoy*, Victor Amadeus I, 3; (4) Victor Amadeus II, 4; (4) *Saxe-Coburg*, Ferdinand[55], d. 1851, 4; (5) *Saxe-Gotha*, Frederick I[62], d. 1691, 5; (5) *Saxe-Meiningen*, Bernard the Pious[64], 6; (5) *Saxony*, Albert, s. of Augustus II, 0; (4) Augustus II, s. of Augustus I, 10; (5) Charles VII, Emperor (Bavaria), 4; (7) *Spain*, Alfonso VIII, the Noble[450], 5; (7) Carlos, s. of Philip III, 0; (3) Carlos[552], first pretender, 3; (7) Ferdinand II, of Leon[449], 1; (7) Ferdinand III[455], 7; (5) Ferdinand VI[536], 0; (5) Frederick Henriques, grandfather of Ferdinand the Catholic, ?; (4) *Sweden*, Adolphus Frederick of Holstein (King), 4; ..... (5.85) Average, 2.90.

Grade (8). (Virtues.)

(6) *Anhalt*, Charles William, 1652–1718, 2; (7) *Austria*, Maximilian II, 8; (6) Rudolph, s. of Leopold II, 0; (6) *Bourbon*, Duke of Burgundy, grandson of Louis XIV, 1; (5) Louis XVI, 1; (6) Louis John de Penthièvre, 2; (5) *Brunswick*, Anthony Ulric, 1714–

75, 5; (*3*) Charles, 1713–80, 8; (*7*) Ernest Lewis, 1718–88, 0; (*7*) Ferdinand Albert I, 6; (*7*) Frederick Augustus, 1740–1805, 0; (*9*) *Coligny*, Gaspard (the great admiral); (*7*) *Condé*, Louis Joseph, 2; (*8*) *Denmark*, Christian IV, 3; (*5*) Frederick VI, 2; (*5*) *Farnese*, Ranuccio II, 2; (*4*) *Hanover*, Edward, Duke of Kent, s. of George III, 1; (*5*) George III, 13; (*5*) *Mecklenburg*, Adolphus, 1738–94, 0; (*5*) Charles Lewis, 1708–1752, 6; (*8*) *Medici*, Ferdinand I, 4; (*4*) *Nassau*, William IV, 2; (*7*) William II (King), 4; (*7*) Frederick William, b. 1797, 2; (*9*) *Orange*, Maurice (celebrated general), 2; (*7*) William the Elder, father of William the Silent, 12; (*9*) William III, King of Great Britain, 0; (*6*) *Orleans*, Anthony, Montpensier, brother of Louis Philippe, 0; (*6*) *Poland*, Ladislaus, s. of Casimir, 2; (*7*) *Portugal*, Edward I, 6; (*8*) Henry of Burgundy, d. 1114, 4; (*10*) John I, "the Great," 8; (*5*) Joseph, s. of John V, 4; (*7*) Louis, s. of Emanuel, I; (*4*) *Savoy*, Charles Emanuel II; (*6*) *Saxe-Coburg*, Frederick II, 9; (*5*) *Saxe-Gotha*, Frederick IV, 0; (*7*) *Saxe-Meiningen*, Anthony Ulric, 5; (*9*) *Saxony*, Maurice (celebrated Elector), 1; (*8*) *Spain*, Ferdinand I, 5; (*7*) Sancho III, 1; ..... (6.44) Average, 3.44.

Grade (*9*). (*Virtues.*)

Austria, Charles (commander against Napoleon), 6; (*5*) Ferdinand I, d. 1564, 13; (*6*) Ferdinand III, 6; (*5*) Leopold I, 6; (*5*) *Brandenburg*, Christian Frederick, d. 1806, 0; (*7*) *Brunswick*, Ferdinand, 1721–92 (General), 0; (*8*) William Adolphus, 1745–70, 0; (*8*) *Conty*, Francis, b. 1664 (elected King of Poland), 3; (*4*) *Hanover*, Adolphus, s. of George III, 3; (*7*) *Lorraine*, Leopold, father of Francis I, of Austria, 5; (*6*) *Mecklenburg*, Adolphus Frederick I, 12; (*7*) *Montmorency*, Henry II, 0; (*8*) *Nassau*, Frederick, b. 1774, 0; (*6*) Orange, John, brother of William the Silent, 16; (*5*) *Portugal*, Don Fernando, s. John I, 0; (*9*) Henry the Navigator, 0; (*5*) *Prussia*, Frederick William (late Emperor), 7; (*9*) Henry, brother of Frederick the Great, 0; (*7*) *Russia*, Alexis, father of Peter the Great, 6; (*6*) *Russia*, Michael Feodorvitch, 1596–1645, 3; (4) *Saxe-Coburg*, Francis F. Anthony, 7; (*5*) *Saxe-Gotha*, Augustus, s. of Frederick III, 0; (*6*) Ernest II, b. 1818, 0; (*10*) *Sweden*, Gustavus Vasa, d. 1559, 6; ..... (6.54) Average, 4.48.

Grade (10). (Virtues.)

(7) *Coligny*, Odet, 1515–1571, 0; (10) *Orange*, William the Silent, 13; (6) *Portugal*, Pedro II, of Brazil, 2; (7) Pedro V, King, born Saxe-Gotha, 6; (8) *Russia*, Feodor, the first Romanoff, 1550–1633, 1; (7) *Saxe-Coburg*, Albert (consort of Victoria), 8; (6) *Saxe-Gotha*, Augustus, b. 1772, 9; (7) Ernest the Pious, 9; (8) Ernest II (the astronomer), 2; (5) Frederick III, d. 1772, 4; (7) Leopold I, of Belgium, 3; (10) *Sweden*, Gustavus Adolphus, 2; ..... (7.33) Average, 4.09.

Grade (1). (Virtues.)

(10) *Anhalt*, Catherine II, Empress of Russia, 1; (8) *Orleans*, Elizabeth, d. of Philip (Regent), 0; (5) Marie, d. of Philip (Regent), 0; (3) *Russia*, Elizabeth, d. of Peter the Great, 0; (1) *Saxony*, Anne, second wife of William the Silent, 2; (6) *Spain*, Marie Louisa, wife of Charles IV, 6; (4) Queen Urraca, 1; ..... (5.28) Average, 1.43.

Grade (2). (Virtues.)

(5) *Brunswick*, Caroline, wife of George IV, of England, 0; (5) *Portugal*, Isabella, d. of Don John, married John II, Castile, 1; (5) Mary, d. of Alfonso IV, 1; (3) *Russia*, Anne[756], 1694–1740, 0; (5) *Savoy*, Joanna, d. of Charles Amadeus, 1; (6) *Spain*, Carlotta, d. 1830, d. of Charles IV, 6; (5) Isabella II, b. 1830, 6; (6) Maria Christina, married Ferdinand VII, 2; ..... (5.00) Average, 2.13.

Grade (3). (Virtues.)

(7) *Austria*, Caroline, Queen of Naples, d. 1814, 7; (5) Maria Louisa, married Napoleon; (5) *Bourbon*, Elizabeth, d. of Louis XV, 3; (6) *Brunswick*, Augusta, 1764–1788, 3; (7) Elizabeth Christine, married Frederick William II, of Prussia, I; (8) Juliana, Queen of Denmark, 1; (4) *Condé*, Henrietta, d. of Louis III, 0; (5) Louise, d. of Louis III, 2; (4) Marie, d. of Louis III, 0; (5) *Conty*, Louise, d. of Amand II, 2; (5) *Medici*, Marie, wife of Henry IV, of France, 2; (5) *Orleans*, Charlotte, d. of Philip (Regent), 5; (5) *Portugal*, Anne, d. of John VI; (3) *Russia*, Catherine, wife of Peter the Great, 2; (8) *Spain*, Joanna Henriquez, wife of John II, of Aragon, 1; (6)

Louise Carlotta, b. 1804, d. of the Two Sicilies, 7; (*8*) Theresa, d. of Alfonso I, Castile, 3; (*5*) *Sweden*, Cecilia, d. of Gustavus Vasa, 3; ..... (5.66) Average, 2.50.

Grade (*4*). (*Virtues.*)

(*4*) *Austria*, Leopoldine[653], married Peter of Brazil, 4; (*5*) Maria Amelia[633], 1746–1804, 4; (*7*) Margaret of Parma, d. of Charles V, 1; (*6*) Sophia Dorothea, married George III, of England, 2; (*7*) *Brandenburg*, Sophia Magdalene, married Christian VI, of Denmark, 2; (*5*) Christine[374], d. of Henry IV, of France, 4; (*6*) *Montespan*, mistress of Louis XIV, 4; (*10*) *Condé*, Anne, Duchess of Longueville, 3; (*3*) *Denmark*, Louise Augusta, d. of Christian VII, 3; (*7*) *Farnese*, Elizabeth, married Philip V, of Spain, 6; (*4*) *Hanover*, Anne, d. of George II, 2; (*6*) *Maillé de Brezé*, Clemence, wife of the great Condé, 1; (*4*) *Mecklenburg*, Charlotte Fredericka[145], Queen of Denmark, 1; (*5*) *Palatine*, Dorothea Sophia, mother of Elizabeth Farnese, 1; (*5*) *Poland*, Catherine, married John III, of Sweden, 2; (*7*) *Prussia*, Fredericka Sophia, Baireuth[228], 1; (*5*) Louisa[230], d. of Frederick William I, 1; (*9*) *Russia*, Sophia[748], half-sister of Peter the Great, 0; (*6*) *Saxe-Gotha*, Augusta, 1719–1772 [78], 6; (*4*) *Saxony*, Maria Amelia, wife of Charles III, of Spain, 7; (*4*) *Spain*, Anne of Austria = Louis XIII, of France, 2; (*5*) Maria Isabella[506], married Emanuel of Portugal, 0; (*4*) Mary of Aragon[497], married John II, of Castile, 1; (*7*) Mary, Queen of Hungary, d. of Philip the Handsome, 0; (*9*) *Sweden*, Christina, 0; ..... (5.76) Average, 2.32.

Grade (*5*). (*Virtues.*)

(*4*) *Austria*, Anne, d. of Maximilian II, 1; (*3*) Maria Anne, d. of Ferdinand III, 2; (*7*) Mary Elizabeth, d. of Leopold I, 0; (*4*) Maria Josepha, d. of Joseph I, 11; (*4*) Theresa, d. of Ferdinand III, of Tuscany, b. 1801, d. 1855, 2; (*4*) *Bourbon*, Adelaide[391], d. of Louis XV, 0; (*10*) Anne Marie, Mademoiselle, d. of Gaston of Orleans, 0; (*6*) Henrietta, d. of Henry IV, of France, 7; (*5*) Louise Marie, Duchess of Parma, d. of the Duke of Berry, 3; (*5*) Marie Theresa, d. of Louis XVI, 0; (*5*) *Brandenburg*, Anne, wife of Christian IV,

of Denmark, 3; (5) Louise, wife of Ferdinand, brother of Frederick the Great, 3; (5) *Brunswick*, Anne Amelia[188], wife of Ferdinand Albert I, 11; (4) Louise Amelia[197], 2; (7) Sybilla[175], 0; (5) *Buren*, Anne of Egmont, married William the Silent, 2; (6) *Denmark*, Sophia Magdalene, d. of Frederick V, 1; (6) *Hanover*, Amelia Sophia, d. of George II, 0; (5) Augusta, sister of George III, 6; (6) Caroline Matilda, sister of George III, 2; (7) Charlotte, d. of George III, 6; (4) *Hesse*, Fredericka Louisa, wife of Frederick William II, of Prussia, 6; (5) *Holstein*, Elizabeth Juliana, wife of Anthony Ulric of Brunswick, 6; (7) Juliana Elizabeth, mother of Catherine II, of Russia, 2; (3) *Mecklenburg*, Louisa, queen of Frederick II, of Denmark, 1; (6) *Orange*, Emily[270], 7; (4) *Orleans*, Anne[402], d. of Philip of Orleans, 4; (7) Louise Adelaide, 1698–1743[406], 0; (5) *Palatine*, Maria Sophia, married Peter II, of Portugal, 5; (4) *Plantagenet*, Catherine, wife of Henry IV, of Castile, 3; (5) *du Plessis*, Nicole, wife of Urbain de Maillé de Brezé; (2) *Portugal*, Barbara, d. of John V, 0; (6) Beatrix, d. of Emanuel, 1; (6) Catherine, queen of Charles II, of England, 0; (4) Constantina, d. of Emanuel, I; (7) Marie Benedicta, d. of Joseph I, 0; (5) Maria da Gloria, 4; (6) Maria Francesca, d. of John VI, 3; (8) Theresa Matilda, d. of Alfonso I; (4) *Russia*, Lapukhin, first wife of Peter the Great, 1; (4) Miloslavski, Marie, first wife of Alexis[745], 7; (5) Nariskin, Natalia, second wife of Alexis[745], 2; (5) *Saxe-Hilburghausen*, Albertina Elizabeth[95], grandmother of George IV, 9; (7) *Saxony*, Marie Antoinette, d. of Charles VII, 4; (7) *Solms*, Amelia, wife of Frederick Henry of Orange, 5; (7) *Spain*, Beatrix, d. of Alfonso X, 8; (6) Caroline[566], d. of Francis I, of the Two Sicilies, 2; (7) Catherine, d. of Philip the Handsome, 2; (5) Dulcia, queen of Sancho I, of Portugal, 8; (5) Eleanor[513], queen of Emanuel of Portugal, 1; (5) Elizabeth, queen of Joseph II, of Austria, 0; (2) Joanna the Mad, 6; (5) Leonora, married Ferdinand I, of Aragon, 7; (2) Maria Theresa[553], queen of Louis XIV, 1; (5) Maria Theresa[560], d. of Ferdinand I, of the Two Sicilies, 6; (5) Maria Padilla, mistress of Peter I, 2; (4) *Sweden*, Margaret, wife of Gustavus Vasa, 8; (3) Ulrica Eleanor, d. of Charles XI, 0; (5) *Tour et Taxis*, Marie Augusta, wife of Charles Alexander of Würtemburg, 4; ..... (5.19) Average, 3.24.

Grade (*6*). (*Virtues.*)

(*5*) *Austria*, Adelaide, d. of[648], queen of Victor Emanuel II, of Italia, 4; (*4*) Clementina[645], 1; (*6*) Elizabeth, d. of[644], 4; (*9*) Margaret, d. of Maximilian I, 0; (*4*) Maria Anna, d. of Leopold I, 3; (*8*) Maria Christina[630], 0; (*4*) Maria Josepha[624], d. of Joseph I, 11; (*5*) *Bavaria*, Maria Anne, 1660–1690, wife of[381], 3; (*5*) *Bourbon*, Victoria[392], d. of Louis XV, 0; (*5*) *Brunswick*, Elizabeth[180], d. of Anthony Ulric, 4; (*8*) *Condé*, Louise, Duchess of Maine[348], 3; (*5*) *Hanover*, Augusta Sophia, d. of George III, 0; (*4*) Louisa, d. of George II, 4; (*4*) Mary, d. of George II, 0; (*5*) Mary, d. of George III, 0; (*6*) Wilhelmina, married Joseph I, of Austria, 2; (*5*) *Hesse*, Fredericka, mother of Louise, Queen of Prussia, 5; (*5*) Louise, b. 1789, d. 1867, d. of Charles; (*7*) *Masovia*, Cymburga, mother of Frederick III, of Austria, 4; (*7*) *Mecklenburg*, Sophia, wife of Frederick II, of Denmark, 6; (*7*) Sophia Elizabeth[162], 2; (*5*) *Palatine*, Elizabeth Charlotte, d. of Frederick IV, 3; (*3*) Maria, wife of Frederick Augustus III, of Saxony, 1; (*4*) *Poland*, Marie Leczinski, queen of Louis XV, of France, 7; (*7*) *Portugal*, Eleanor[697], wife of Frederick III, of Austria, 2; (*4*) Maria I[723], 3; (*7*) Theresa[728], 0; (*5*) *Prussia*, Charlotte[251], Empress of Russia, 7; (*7*) *Reuss*, Augusta, grandmother of Queen Victoria, 7; (*4*) *Russia*, Catherine[755], d. of Ivan, 1; (*6*) *Saxe-Coburg*, Victoria Marie, mother of Queen Victoria, 1; (*5*) *Saxony*, Josepha, mother of Louis XVI, 5; (*7*) *Spain*, Berengaria of Barcelona, wife of Alfonso VII, of Castile, 4; (*7*) Catherine, sister of Charles V, Emperor; (*4*) Joanna, married Henry II (Transtamara), 2; (*4*) Leonora, queen of John I, of Castile, 2; (*7*) Leonora de Guzman, queen of Alfonso XI, of Castile, 6; (*2*) Maria Louisa[543], d. of Charles III, 13; (*6*) Mary, queen of Pedro II, of Aragon, 1; (*6*) Mary, d. of Charles V, Emperor, 8; (*9*) Medina-Sidonia, Louise, queen of John IV, of Portugal, 3; (*5*) Violanta, queen of Alfonso X, of Castile, 6; (*7*) Violanta, queen of James I, of Aragon, 7; (*7*) Catherine, d. of Charles IX, 5; (*8*) *Sweden*, Sophia Albertina, sister of Gustavus III, 0; (*5*) *Würtemburg*, Sophia, Empress of Paul of Russia, 9; ..... (5.69) Average, 3.73.

Grade (*7*). (*Virtues.*)

(*7*) *Burgundy*, Mary, d. of Charles the Bold, 2; (*7*) *Denmark*, Ulrica Eleanora, d. of Frederick III, 3; (*8*) *d'Ernier*, Eleanor, mar-

ried George William of Brunswick, 1; (5) *Hanover*, Charlotte, d. of George IV, 0; (4) Elizabeth, d. of George III, 0; (5) Sophia Dorothea, d. of George I, 10; (6) *Orange*, Albertina, d. of Frederick Henry, 2; (6) Louisa[279], 2; (7) Louisa Juliana, d. of William the Silent, 5; (5) *Orleans*, Mercedes, d. of Anthony[423], 0; (5) Philippina Elizabeth[410], 0; (9) *Palatine*, Elizabeth, d. of Frederick V, 0; (10) Sophia, d. of Frederick V, 6; (5) *Poland*, Anne, wife of Ferdinand I, Emperor, 13; (6) *Portugal*, Isabella[705], married Emperor Charles V, 3; (7) Mary, b. 1538, d. 1577, wife of Alexander Farnese,?; (6) *Saxe-Gotha*, Dorothea Louise[84], d. of August, 2; (2) *Saxony*, Maria Josepha, d. Emperor Charles VII, married Joseph II, of Austria, 0; (5) *Spain*, Elizabeth (Beatrix), married Ferdinand III, of Castile, 9; (8) Elvira, wife of Bermudo II, 2; (5) Joanna, d. of Charles V, 1; (4) Leonora[498], married Edward of Portugal, 4; (5) Mary[529], d. of Philip III, 6; (7) Maria Antonia, married Ferdinand VII, of Spain[564], of the Two Sicilies, 0; (4) Maria Louise[556], d. of Ferdinand VII, 5; (5) Urraca, d. of Alfonso VIII, married Alfonso II, of Portugal, 4; ..... (5.89) Average, 3.20.

Grade (8). (Virtues.)

(5) *Bourbon*, Louise de Blois, d. of Louis XIV, 7; (5) Louise, d. of the Duke of Penthièvre, 4; (10) Margaret of Navarre, grandmother of Henry IV, of France, 1; (5) *Brandenburg*, Anne, Queen of Denmark, 2; (9) *Brunswick*, Anne, Duchess of Saxe-Weimar (patron of Goethe, etc.), 2 ; (6) Elizabeth married Charles VI, of Austria, 2; (7) *Coligny*, Louise, wife of William the Silent, 1; (7) *Condé*, Louise Adelaide, Duchess of Maine, 0; (4) *Denmark*, Caroline, d. of Frederick VI; (4) *Hanover*, Caroline Elizabeth, d. of George II, 0; (5) *Mecklenburg*, Louise[158], 7; (6) *Montmorency*, Charlotte, married Condé, 3; (5) *Plantagenet*, Philippa, Queen of Portugal, 6; (5) *Portugal*, Eleanor, queen of John II, 1; (4) Marie Isabelle, d. of John VI, 0; (6) Matilda, d. of Sancho I, 0; (9) *Prussia*, Amelia, sister of Frederick the Great, 0; (7) *Russia*, Anne, d. of Peter the Great, 0; (6) *Savoy*, Maria, queen of Philip V, of Spain, 2; (8) *Saxe-Meiningen*, Louise Dorothea, "the German Minerva," 3; (8) *Spain*, Isabella, d. of Philip II, 0; (8) Marie, wife of Sancho IV, 6; (5) Marie Amelia, wife of Louis Philippe, King of France, 8; (7) Sancha, queen of Ferdinand I, 5; ..... (6.29) Average, 2.61.

Grade (9). (Virtues.)

(5) *Austria*, Elizabeth, d. of Maximilian II, 0; (5) Margaret, d. of Maximilian II, 0; (9) Maria Theresa (the great queen), 10; (5) *Bourbon*, Adelaide[398], 0; (7) Elizabeth[399], 0; (9) Jeanne d'Albret, d. of Henry of Navarre, 2; (8) *Brandenburg*, Caroline, queen of George II, of England, 7; (6) *Brunswick*, Charlotte, Czarina of Russia, 2; (4) Elizabeth, wife of Frederick the Great, 0; (6) *Denmark*, Charlotte Amelia, d. of Frederick IV, 0; (9) *Hanau*, Amalie, Landgräfin von Hessen, 4; (8) *Hanover*, Sophia Charlotte, Queen of Frederick I, of Prussia, 1; (5) *Hesse*, Charlotte Amelia, queen of Christian V, of Denmark, 3; (5) *Mecklenburg*, Charlotte, queen of George III, of England, 13; (8) *Prussia*, Charlotte, sister of Frederick the Great, and Duchess of Brunswick, 8; (8) *Russia*, Natalia, d. of Alexis, 0; (8) *Spain*, Berengaria (famous queen), 5; (7) Stolberg, Juliana, mother of William the Silent, 12; ..... (6.78) Average, 3.73.

Grade (10). (Virtues.)

(6) *Hanover*, Queen Victoria, 8; (5) *Mancini*, Anne, wife of Amand, Prince of Conty, 2; (10) *Prussia*, Louisa Ulrica, Queen of Sweden, and sister of Frederick the Great, 4; (5) *Savoy*, Christine, d. of Victor Emanuel I, 1; (10) *Spain*, Isabella of Castile, 4; (8) Saint Elizabeth, queen of Dennis I, of Portugal, 2; ..... (7.33) Average, 3.50.

CHAPTER II

House of Hanover in England

[1]—[37]

The group first considered will be the royal house of Hanover, from its first appearance in England to the present time. The blood introduced into this family from George I on, has been mostly Saxe-Coburg (both branches, the Saalfeld and Gotha), Mecklenburg-Strelitz, and a little of an obscure branch of the Brandenburgs, by the marriage of George II with the famous Queen Caroline.

The extinction of the house of Orange and the death of Queen Anne brought the Crown of England by roundabout succession through a Palatine descendant of James the First, to George of Hanover, an unwilling accepter of the uneasy task of royalty. George I was a rather weak, dull, and indifferent scion of a gifted stock. He was descended from the brilliant house of Orange, which we shall afterwards see was able to form the greatness of the Hohenzollerns in Prussia, but he himself was nothing. George I's character was not remarkable, but if he is to be described in any one word, it ought to be as one always thinks of the Georges as a whole. He was rather dull. His tastes were coarse, and his private life far from exemplary; nor can the reproach of brutality be forgotten as long as memory can be awaked, or sympathy aroused for his young bride Sophia Dorothea, whom he so cruelly

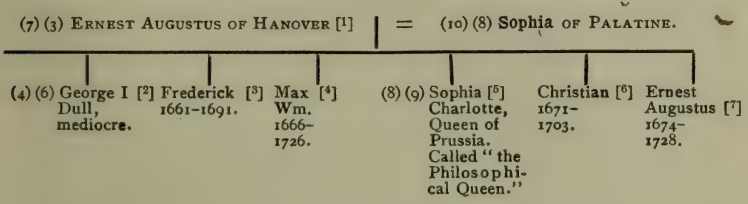
imprisoned in the Castle of Ahlden. The story of this romantic and unfortunate affair has been told in many memoirs, the latest of which, Wilkins' "Love of an Uncrowned Queen," gives an interesting picture of the court life at Brunswick, the home of George before his advent to the English throne.

Sophia Dorothea, his consort, young, beautiful, vivacious, and headstrong, neglected by her husband, formed an attachment with Count Königsmark; which resulted in the murder of the Count, and the imprisonment of Dorothea during the remainder of her life. She was a first cousin of George I, her father, Duke of Celle, being a brother of Ernest Augustus, of Hanover — both belonging to a branch of the house of Brunswick. The stock from which she came was good, though devoid of genius, and one might expect much from some of the descendants of such a union, were the intellectual strain seen in the upper left-hand corner of the chart for the *House of Hanover* (p. 50), not lost, as will now be explained.

A glance at this same chart shows that both the father and mother of George I were endowed with superior minds; and **Sophia**, the mother, was the intellectual Duchess of Brunswick, intellect (10), a descendant of the illustrious house of Orange on both sides. It was left for the sister of George, Sophia Charlotte[5], the "Philosophical Queen" of Frederick I of Prussia, to transmit the genius of Orange into Prussia, and to form the remarkable group of which **Frederick the Great** was the most famous.

This queen may be seen in the diagram below to be the only child to inherit, in practically full force, the mental endowments of her mother. The others, ex-

cepting George I, died young, or, if they lived, never amounted to much, or left any records of their achievements.


(7) (3) Ernest Augustus of Hanover [1]
=
(10) (8) Sophia of Palatine.
(4) (6) George I [2] Dull, mediocre.
Frederick [3] 1661–1691.
Max [4] Wm. 1666–1726.
(8) (9) Sophia [5] Charlotte, Queen of Prussia. Called "the Philosophical Queen."
Christian [6] 1671–1703.
Ernest Augustus [7] 1674–1728.

George I, from whom the subsequent members of the house of Hanover, in England, are descended, did not in the least inherit the intellectual qualities of his mother, **Sophia,** of Palatine, so here occurred a selection of the genius, to go to Prussia, while the dullness was transferred, in the person of George, to the English house, where, we shall see, subsequent unions might be expected to do little more than maintain his type.

George II[8], the next king of the house of Hanover, resembled his father in many respects. He is summarized on the chart as dull, coarse, and obstinate. The following contemporary rhyme throws a very just light on his character:

> You may strut, dapper George, but it will all be in vain.
> You govern no more than Don Philip of Spain.
> Then if you would have us fall down to adore you,
> Lock up your fat wife as your dad did before you.

This "fat wife," Caroline of Brandenburg, was in reality the flower of them all, as far as those of the chart of Hanover are concerned; and aside from **Sophia,** of Palatine, was the only really vigorous character included among the Hanover members. The chart shows the

stock from which Caroline came to have been "obscure," so that an appearance of very exceptional mental gifts might not be expected among the children of George II, and, as a matter of fact, none even equaled their mother, Caroline. William, Duke of Cumberland[14], commander at Fontenoy and Culloden, was, however, a man above the average in mental endowments.

The eldest son, Frederick, Prince of Wales, may be seen, on the same chart, to have been the least gifted of all the children; and since he was the progenitor for the remaining members of the house, there is little wonder that the intellectual strain which we saw in the beginning (upper left corner of the Hanover chart) disappeared entirely from then onward through the remaining generations.

His consort, Augusta[78], was a daughter of Frederick II, of Saxe-Gotha. The chart shows this stock to be excellent in moral qualities, but devoid of any exceptional ability.

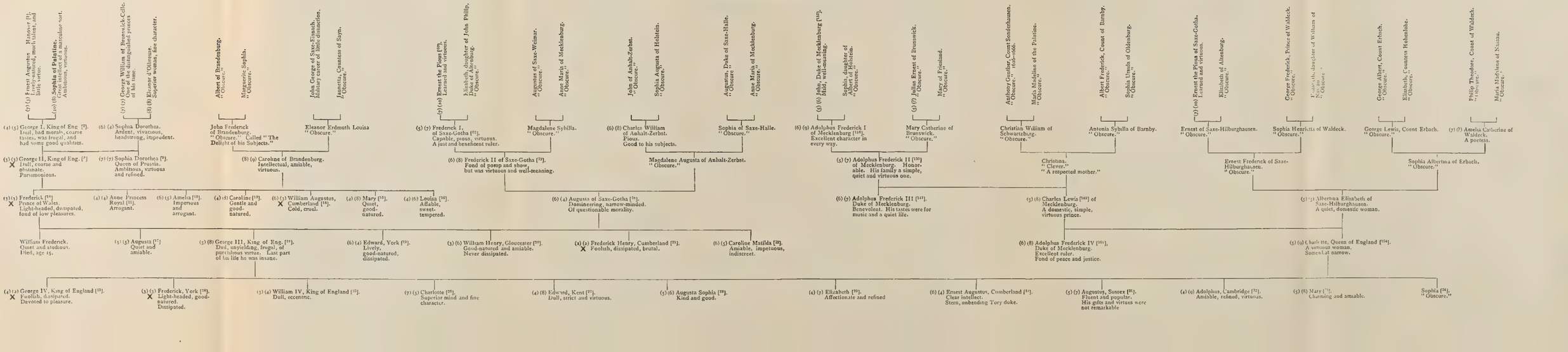
The next generation (George III, and others) could not be expected to show ability, and did not. Frederick Henry[21] and Edward of York[19] maintained their father's reputation for dissipation, while the others, brought up in the same surroundings, were sufficiently virtuous to keep up the good name of their mother's family, which was then, and, in fact, still is, the best in all royalty.

This strong contrast between the children is very important to notice, and can hardly be explained on any grounds but heredity. It would seem that when two different types are united or crossed, some of the offspring show the characteristics of one of these variations, some of the other. This instance here, may be compared with many evidences of the same phenomenon among the

Pedigree of the English Kings of the House of Hanover.

Of the figures in parentheses to the left of the names, the first refers to the grade for intellect, the second to the grade for virtues.

X signifies a grade below (4) for virtues.


(7) (5) Ernest Augustus Hanover [1]. Dull, bad-hearted, much bitten, and little virtue.
(10) (8) Sophia of Palatine. Clever, learned, particular sort. Ambitious, virtuous.
(7) (7) George William of Brunswick-Celle. One of the distinguished princes of his time.
(8) (8) Eleanor d'Olbreuse. Superior woman, fine character.
Albert of Brandenburg. "Obscure."
Margaretic Sophia. "Obscure."
John George of Saxe-Eisnach. Military career of little distinction.
Jannetta, Countess of Sym. "Obscure."
(7) (10) Ernest the Pious [97]. Learned and virtuous.
Elizabeth, daughter of John Philip, Duke of Altenburg. "Obscure."
Augustus of Saxe-Weimar. "Obscure."
Anne Maria of Mecklenburg. "Obscure."
John of Anhalt-Zerbst. "Obscure."
Sophia Augusta of Holstein. "Obscure."
Augustus, Duke of Saxe-Hall. "Obscure."
Anne Maria of Mecklenburg. "Obscure."
(5) (6) John, Duke of Mecklenburg [107]. Mild, well-meaning.
Sophia, daughter of Ulric, Duke of Holstein. "Obscure."
(5) (7) John Ernest of Brunswick. "Obscure."
Mary of Friesland. "Obscure."
Anthony Gunther, Count Sonderhausen. "Obscure." 1616–1666.
Maria Madeline of the Palatine. "Obscure."
Albert Frederick, Count of Barnby. "Obscure."
Sophia Ursula of Oldenburg. "Obscure."
(7) (10) Ernest the Pious of Saxe-Gotha. Learned and virtuous.
Elizabeth of Altenburg. "Obscure."
George Frederick, Prince of Waldeck. "Obscure."
Elizabeth, daughter of William of Nassau. "Obscure."
George Albert, Count Erbach. "Obscure."
Elizabeth, Countess Hohenlohe. "Obscure."
Philip Theodore, Count of Waldeck. "Obscure."
Maria Madalene of Nassau. "Obscure."
(4) (5) George I., King of Eng. [7]. Dull, bad morals, coarse tastes, was frugal, and had some good qualities.
(6) (4) Sophia Dorothea. Ardent, vivacious, headstrong, imprudent.
(8) (9) Caroline of Brandenburg. Intellectual, amiable, virtuous.
(5) (7) Adolphus Frederick II [120] of Mecklenburg. Honorable. His family a simple, quiet and virtuous one.
Christina. "Clever." "A respected mother."
Ernest Frederick of Saxe-Hilburghausen. "Obscure."
Sophia Albertina of Erbach. "Obscure."
(5) (5) George II., King of Eng. [7] X Dull, coarse and obstinate. Parsimonious.
(7) (7) Sophia Dorothea [9]. Queen of Prussia. Ambitious, virtuous and refined.
(5) (6) Frederick [10] Prince of Wales. Light-headed, dissipated, fond of low pleasures.
(4) (4) Anne Princess Royal [11]. Arrogant.
(6) (5) Amelia [12]. Imperious and arrogant.
(4) (5) Caroline [13]. Gentle and good-natured.
(6) (5) William Augustus, Cumberland [14]. X Cold, cruel.
(4) (5) Mary [16]. Quiet, good-natured.
(4) (6) Louisa [16]. Affable, sweet-tempered.
(6) (4) Augusta of Saxe-Gotha [31]. Domineering, narrow-minded. Of questionable morality.
(6) (7) Adolphus Frederick III [147]. Duke of Mecklenburg. Benevolent. His tastes were for music and a quiet life.
(5) (8) Charles Lewis [142] of Mecklenburg. A domestic, simple, virtuous prince.
(5) (5) Albertina Elizabeth of Saxe-Hilburghausen. A quiet, domestic woman.
William Frederick. Quiet and studious. Died, age 15.
(5) (5) Augusta [17] Quiet and amiable.
(5) (8) George III., King of Eng. [18]. Dull, unyielding, frugal, of parcitonious virtue. Last part of his life he was insane.
(6) (4) Edward, York [19]. Lively, good-natured, dissipated.
(5) (6) William Henry, Gloucester [20]. Good-natured and amiable. Never dissipated.
(5) (5) Frederick Henry, Cumberland [21]. X Foolish, dissipated, brutal.
(6) (5) Caroline Matilda [22]. Amiable, impetuous, indiscreet.
(6) (8) Adolphus Frederick IV [161]. Duke of Mecklenburg. Excellent ruler. Fond of peace and justice.
(5) (9) Charlotte, Queen of England [154]. A virtuous woman. Somewhat narrow.
(4) (5) George IV., King of England [23]. X Foolish, dissipated. Devoted to pleasure.
(5) (5) Frederick, York [24]. X Light-headed, good-natured. Dissipated.
(5) (4) William IV., King of England [25]. Dull, eccentric.
(7) (5) Charlotte [26]. Superior mind and fine character.
(4) (8) Edward, Kent [27]. Dull, strict and virtuous.
(5) (6) Augusta Sophia [28]. Kind and good.
(4) (7) Elizabeth [29]. Affectionate and refined
(6) (4) Ernest Augustus, Cumberland [30]. Clear intellect. Stern, unbending Tory duke.
(5) (7) Augustus, Sussex [81]. Fluent and popular. His gifts and virtues were not remarkable
(4) (9) Adolphus, Cambridge [82]. Amiable, refined, virtuous.
(5) (6) Mary [83]. Charming and amiable.
Sophia [84]. "Obscure."

Romanoffs, Bourbons, and other families. In other words, we have what is called *alternative inheritance*, a condition very common in hybrid crossings among many forms of animals and plants.

George, the eldest son of Frederick, Prince of Wales, who became the famous George III, of England, was a dull, stubborn prig, as unlike his father as a son could well be. The characteristics of Queen Charlotte[154], his wife, may be seen on the Hanover chart, and after scanning the description of her tastes and the general tone of the ancestry, one might predict among twelve children, about the outcome that is to be observed. George IV [23], and Frederick, Duke of York[24], are the only black sheep; representing their uncle, Frederick Henry[21], and grandfather, Frederick, Prince of Wales[10]. The remaining children turned out mediocre and correspond with the residue of the pedigree.

William IV[25] was eccentric, and the only child to show the slight family psycho-neurosis of which George III was a distinct example. This tendency to mental unbalance, which in George took the form of insanity during his later life, is discussed in the chapter on Denmark (p. 228). Here in the house of Hanover where it showed itself in only a few examples, it may be considered to be probably a reversion to the old Palatine insanity at the time of the Stuarts.

Edward, Duke of Kent[27], who, as the father of Victoria, became the ancestor of the present royal family in England, was one of the better and more normal among the children of George III. Since he married Victoria Marie Louise[56], of Saxe-Coburg,* the forecast for the

* See following chapter.

future was then very good, from the moral standpoint; while from the intellectual, nothing more than average was to be expected. It is too soon to estimate satisfactorily the intellectual standing of Queen Victoria, but, as regards the other portion of personal make-up under discussion in these pages, there can be no question but that the justly lamented queen was a worthy representative of that remarkable relationship of noble characters to which her husband, as well as her mother, belonged. (See under Saxe-Coburg-Gotha.)

If many children had been born to Edward, Duke of Kent, it might be expected that one or two would resemble George IV in reverting to the dissolute type, or inherit the insanity of George III; but there was no reason why one child might not favor the better members of the family. It is a great mistake to consider that Queen Victoria had a bad ancestry, as considerably over three-quarters of the inheritable influence was of the best type that royalty in any of its branches can offer. An editorial pubished in a Boston paper about the time of her death, is worth quoting as showing the prevailing incorrect ideas in regard to heredity in general, as well as concerning this particular case.

"**Uninjured by Heredity:** Queen Victoria may be regarded as a fortunate example that heredity is not always reliable to perpetuate ancestral traits. It did not need the pungent and caustic lectures of Thackeray in this country to inform the American public of the kind of kings from whom she was descended. The first two Georges can hardly be considered monarchs of fragrant memory, and her grandfather was a man who, by his pig-headed course towards our country in its colonial

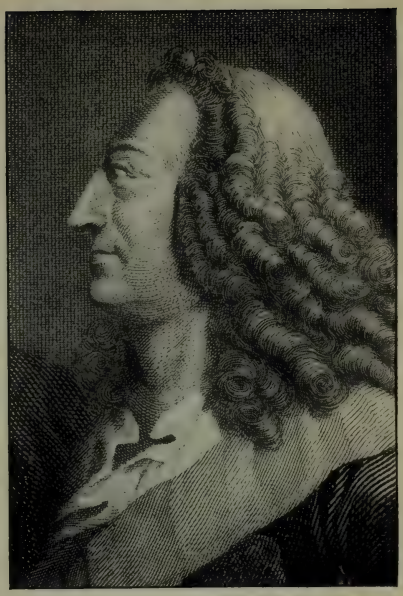
GEORGE I [2].

ANNE [11],
Daughter of George II of England. Married William IV of Nassau-Dietz.

WILLIAM, DUKE OF CUMBERLAND [14],
Son of George II.

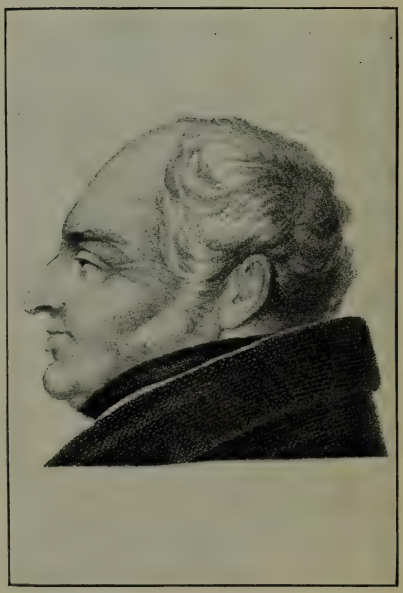
EDWARD DUKE OF YORK [19],
Brother of George III.

ERNEST AUGUSTUS, DUKE OF CUMBERLAND[30],
Son of George III.



GEORGE II[8].

WILLIAM IV[25].



FREDERICK, DUKE OF YORK [24],
Son of George III.

state, brought on the American Revolution. Her uncle, George IV, was an embodiment of what was worst in his house. Her other uncle, William IV, who intervened between her and his predecessor, was better in his morals than in his manners, and was an inoffensive ruler, rather than one to win more important distinction. From this unpromising stem comes Victoria, of whose father the best that can be said is that nothing very serious to his discredit is recorded. Victoria thus blossomed out of an unpromising line of ancestors."

This illustrates very well the common mistakes, made over and over again, regarding human heredity. People neither realize the paucity of influence from a few remote ancestors nor the need of considering the maternal lines and making up a *complete* pedigree; extend though it may, only approximately, into the past.

The marriage of Queen Victoria with Albert, of Saxe-Gotha, may be considered, in regard to its bearing on the future welfare of the royal family of England, as one of the best possible. The undesirable types of folly and eccentricity are pretty well eliminated, and a cultivated, intelligent group of men and women may be expected to occur.

As before stated in the introduction, it is almost impossible to find a word about the branch of Reuss-Ebersdorf, so that the grandparent of Queen Victoria, Augusta Caroline, together with the ascending generations, has been placed with the others only after much searching of records (see chart, opp. p. 60). In the same way English historians have never taken the least interest in two of the grandparents of their kings, George IV and William IV.

I refer to the characteristics of Charles Lewis[149], of Mecklenburg, and Albertina Elizabeth, of Saxe-Hilburg-

hausen, names doubtless unknown to most of my readers. This branch, important to English history of a hundred years ago, has, like the Reuss record, been filled in on the chart (opp. p. 50) in an unsatisfactory manner only after much research; and all this in spite of the fact that George III was insane, and some of his many children were liable to the same trouble, and all the more so if this maternal branch was not in sound mental health. It was not that writers did not wish to give causes for the disgraceful actions of George IV and his brother Frederick, Duke of York; but here, as elsewhere, everything was ascribed to "bringing up," or to some personal responsibility of the individual, which gives us the phrase "own fault," which may be useful in correcting children, but is hardly a scientific way of explaining causes; at least, until one has taken into account the probability from inherited ancestral or other material influences.

The nine children of Queen Victoria and Albert are not placed in the grades here employed, because it has been the aim of the writer to work only with those long enough dead to have reached their proper level in the scale of the world's estimates. It may, however, be said that the lives of nearly all the descendants have upheld the high standard one might expect from the ancestry as here analyzed. The early life of the present king, Edward VII, comes out in contrast with the others, and can more readily be explained by heredity than by any other means. With the death of Queen Victoria, the house of Hanover came to an end, and the coronation of King Edward VII inaugurated the reign of the house of Saxe-Coburg-Gotha.

LOUISE [16],
Daughter of George II, Queen of Frederick V of Denmark.

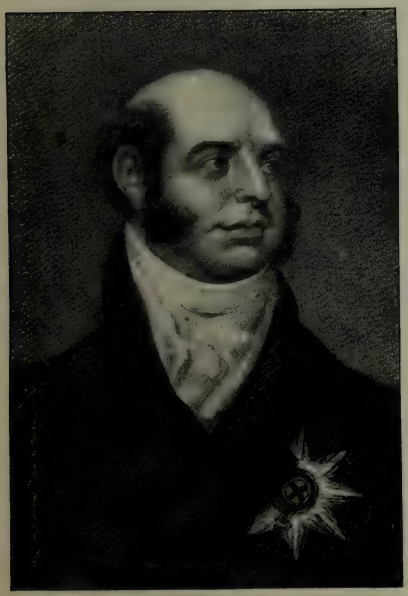
FREDERICK, PRINCE OF WALES [10],
Son of George II.

CAROLINE MATILDA [22], *QUEEN OF CHRISTIAN VII OF DENMARK. Sister of George III.*

AUGUSTA [17], *DUCHESS OF BRUNSWICK.*
Sister of George III.

WILLIAM HENRY, DUKE OF GLOUCESTER [20],
Brother of George III.

GEORGE III [18] *AND QUEEN CHARLOTTE* [154].



EDWARD, DUKE OF KENT [27],
Son of George III.

WILLIAM [35],
Son of William, Duke of Gloucester [20].

SUMMARY OF THE HOUSE OF HANOVER

Psychological Aspects

From Ernest Augustus to Queen Victoria, we have thirty-seven members in the direct line who have furnished us with records for study. To this thirty-seven we may add such ancestors and collaterals as the various marriages from Ernest Augustus's time onward have brought into the family connection. These form the entire group of persons found on the Hanover chart. There one can see that the significant fact, to be drawn from a study of this Hanoverian branch, is that among this large number (89) there is not a single person, with the exception of **Sophia,** of Palatine, whom one would think of calling a genius; all of this stamp being grouped about each other, in other regions of a great imaginary chart, made to include all the royalty considered in the book. It is also significant that there is but a slight amount of insanity, George III being the only one actually insane. Also no true imbecility can be found. The following is a list of the Hanover marriages:

George I = Sophia Dorothea, of Brunswick, stock pretty good, no genius.*

George II = Caroline, of Brandenburg, stock good, no genius.

Frederick, Prince of Wales = Augusta, of Saxe-Coburg, stock good, no genius.

George III = Charlotte, of Mecklenburg, stock "obscure," good, no genius.

* "No genius" means that no individuals worthy of grades (9) or (10) for intellect are to be found. The word "genius" is used in this sense throughout this book.

Edward, Duke of Kent = Victoria Maria, of Saxe-Coburg, stock excellent, no genius, strong literary bent.

Queen Victoria = Albert, of Saxe-Coburg, stock excellent, no genius, strong literary bent.

Thus, from George the First's time on, there has never been any genius introduced into the pedigree of the house of Hanover, and, as we all know, none has appeared in any of the descendants bearing the name. So as regards mental attainments, we have, what we might expect, mediocrity the characteristic, with here and there minds above the average. There is certainly nothing higher than grade (8) (Queen Caroline, consort of George II).

It is also to be noted that there were not among these thirty-seven of the Hanover house, a single man or woman of literary taste and ability sufficient to have been known as an author. Contrast with this the authorship in the house of Brunswick, pp. 67, 68, or in the Saxe-Coburg family, p. 59.

We can easily understand from the standpoint of heredity, why George IV was such a scapegoat, and why his brother, the Duke of York, was not much better. It was simply his grandfather, Frederick, and great-grandfather, George II, returning in him. It cannot be rightly affirmed that their characters were due to the conditions of the social life of the time, or to the too rigid bringing up to which George III subjected his children. All the children did not show such traits. Most of them, on the contrary, were quiet and well-conducted like their father and their mother and their mother's family. This ratio is about what we should expect.

The explanation of the entire group is almost perfect

CHARLOTTE [26],
Daughter of George III.

AUGUSTA [28],
Daughter of George III.

SOPHIA [34],
Daughter of George III.

ELIZABETH [29],
Daughter of George III.

FREDERICK HENRY, DUKE OF CUMBERLAND[21].
Brother of George III.

GEORGE IV[23].

ADOLPHUS, DUKE OF CAMBRIDGE [32],
Son of George III.

AUGUSTUS, DUKE OF SUSSEX[31],
Son of George III.

from the standpoint of heredity, and is much better than an explanation from environment, because we would then fail to account for the contrasts among the children; which contrasts are to be expected from the effects of *alternative inheritance.*

SUMMARY OF THE HOUSE OF HANOVER

Facial Aspects

In looking over the portraits of this family, there seem to be at least four distinct types met with.

a. Type with regular features.

b. "Guelph," typified in George III[18] and Edward, Duke of Kent[27].

c. Type of Frederick, Prince of Wales[10].

d. Type of George II[8].

The majority belong to type *a*, or the regular, and is probably due to the fact that George I and his parents, the wife of George I and her parents, the queen of George II, and the wife of Frederick, Prince of Wales[78], were either beautiful or had faces without marked peculiarities.

The type which I have called "Guelph" may be described as long, sloping forehead, aquiline nose, chin rather small and slightly receding. [14], [18], [20], [24] (all but chin) and [27], [35], [37], belong in this group.

The type of Frederick, Prince of Wales[10], is seen in [16] and in his daughters Augusta[17] and Caroline Matilda[22], but not in the other children.

George the Second's face is reproduced in Frederick, Prince of Wales, as far down as the mouth, the heavy chin being replaced by a small one. This large jaw of George II found so frequently in royalty, especially among

the Hapsburgs and among the kings of Denmark, was rare in the house of Hanover; Ernest Augustus[30] and Frederick[24] being the only descendants of George II[8] to show it. Ernest Augustus[30] exhibits complete reversion to his great-grandfather George II.

It is interesting to notice that the face is inherited in much the same way as the character. It is easy to divide the members into groups, some of which show the peculiarity in question, while others do not. The features usually resemble only one of the two parents when the parents are dissimilar; or at least some one feature, nose, chin, or eyes, may be easily referred to one of two parents rather than to a blending of each. In other words, we have again *alternative inheritance.*

The grades in this chapter are based on all the combined and averaged opinions of the following: Dict. of National Biography; Lippincott's; P. Fitzgerald, "Geo. III," "William IV;" Dr. Doran, "Queens of Hanover;" Holt, "Geo. III;" Jesse, "Geo. III;" Galt, "Geo. III;" Walpole, "Geo. III;" Sir N. and L. Wraxall; Von Heinemann, "Gesch. von Braunschweig;" Vehse, "Court of Prussia." *See Appendix.*

CHAPTER III

Saxe-Coburg-Gotha, the Reigning House of England

[38] — [84]

As I started with the present King of England, and since his father was a prince of Saxe-Coburg, I was at once led into that family, which will now be considered. Albert, the lamented consort of Queen Victoria, was, as every one knows, a highly cultivated, earnest, and noble man, a devoted husband, and an enthusiastic reformer in all affairs related to the public good. Well versed in science and literature, he was also an accomplished musician. Did he come by this character through inheritance? It will be seen that traits like Albert's are written all over his family pedigree. As the group just considered, Hanover, was remarkable for its dullness; so this group is remarkable for its virtues and bent towards literature, science, and art. It is not that the dukes in the male line have shown such tendency in a marked degree, but it is, that at each step going back, the pedigree gives us in many stems, examples of idealists, poets, and dreamers. The main tap-roots of this stock have been from Ernest the Pious, Brunswick-Wolfenbüttel, Saxe-Gotha, Saxe-Saalfeld, and other branches of the Saxe houses. Ernest the Pious[60], himself, who appears many

times in the pedigree, was a man of wisdom, virtue, and marked religious bent; the Brunswick family was noted for its strong literary taste, as will be shown more in detail later; and all marriages with the Saxe houses can be seen to have kept alive those same qualities as the salient characteristics of the breed.

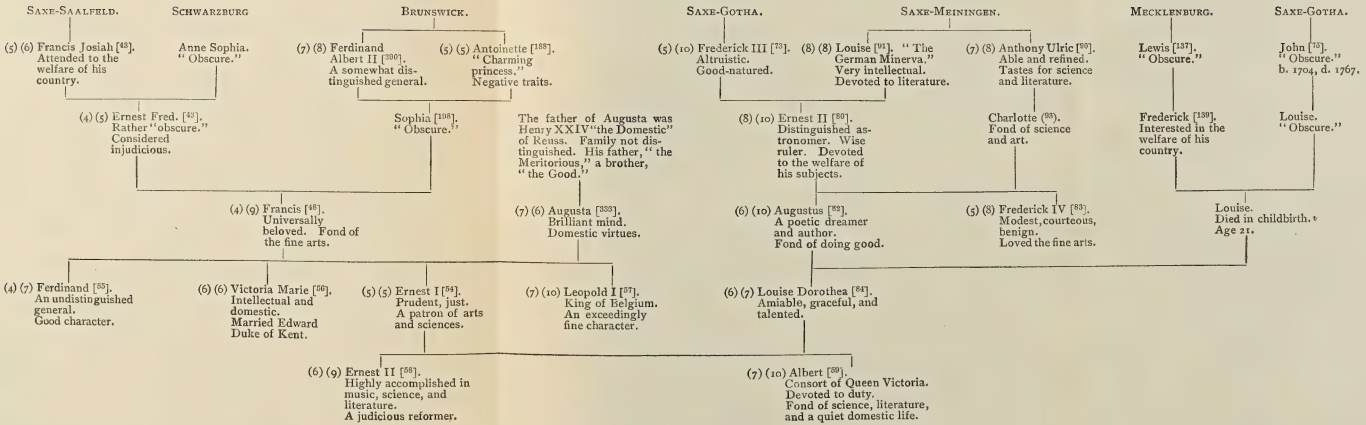
We see that after two hundred and fifty years, the same traits exist because there has never been a time when blood of another sort was introduced to contaminate or dilute it. Everywhere we notice that love of ideas and refinement of taste have been the objects sought, rather than the sway of power or the obtainance of military fame. There has not been one soldier of sufficient renown to appear in any of the smaller biographical dictionaries like Lippincott's or Rose's. One only was what may be called a successful general, but his career is described solely in the larger German dictionaries.

From Ernest the Pious (1601–1675) to Frederick IV (1774–1825), the branch of Gotha contains, including ancestors, 64 names. The branch of Coburg from John Ernest (sixteenth century) to Albert, consort of Queen Victoria (1819–1861), contains 118 names. There is considerable intermarriage, so that we find some persons repeated several times. Thus the actual number of individuals is less than this; still, the value scientifically is 64 + 118 or 182. Although in the furthest degree of remoteness we deal with sixty-four different tap-roots, owing to intermarriages there are only twenty-one family names. Among these sixty-four, we find the following families composing the stock:

Saxe (different branches) twenty-one times. That is,

Pedigree of Albert, Father of King Edward VII.

SHOWING THE EXCELLENT QUALITIES OF THIS STOCK.


Saxe-Saalfeld.
Schwarzburg
Brunswick.
Saxe-Gotha.
Saxe-Meiningen.
Mecklenburg.
Saxe-Gotha.
(5) (6) Francis Josiah [43]. Attended to the welfare of his country.
Anne Sophia. "Obscure."
(7) (8) Ferdinand Albert II [390]. A somewhat distinguished general.
(5) (5) Antoinette [188]. "Charming princess." Negative traits.
(5) (10) Frederick III [75]. Altruistic. Good-natured.
(8) (8) Louise [91]. "The German Minerva." Very intellectual. Devoted to literature.
(7) (8) Anthony Ulric [89]. Able and refined. Tastes for science and literature.
Lewis [137]. "Obscure."
John [72]. "Obscure." b. 1704, d. 1767.
(4) (5) Ernest Fred. [42]. Rather "obscure." Considered injudicious.
Sophia [198]. "Obscure."
The father of Augusta was Henry XXIV "the Domestic" of Reuss. Family not distinguished. His father, "the Meritorious," a brother, "the Good."
(8) (10) Ernest II [80]. Distinguished astronomer. Wise ruler. Devoted to the welfare of his subjects.
Charlotte (93). Fond of science and art.
Frederick [139]. Interested in the welfare of his country.
Louise. "Obscure."
(4) (9) Francis [48]. Universally beloved. Fond of the fine arts.
(7) (6) Augusta [333]. Brilliant mind. Domestic virtues.
(6) (10) Augustus [82]. A poetic dreamer and author. Fond of doing good.
(5) (8) Frederick IV [83]. Modest, courteous, benign. Loved the fine arts.
Louise. Died in childbirth. Age 21.
(4) (7) Ferdinand [85]. An undistinguished general. Good character.
(6) (6) Victoria Marie [86]. Intellectual and domestic. Married Edward Duke of Kent.
(5) (5) Ernest I [84]. Prudent, just. A patron of arts and sciences.
(7) (10) Leopold I [87]. King of Belgium. An exceedingly fine character.
(6) (7) Louise Dorothea [84]. Amiable, graceful, and talented.
(6) (9) Ernest II [88]. Highly accomplished in music, science, and literature. A judicious reformer.
(7) (10) Albert [89]. Consort of Queen Victoria. Devoted to duty. Fond of science, literature, and a quiet domestic life.

the breed was perpetuated to the extent of about a third from itself. We find the name of Brunswick seven times, Mecklenburg six, Anhalt five, Holstein four, Hesse three, Reuss two, Solms two, Schwarzburg two, Baden, Bentheim, Castell, Erbach, Hohenlohe, Loewenstein, Cetlinger, Sayn, Stolberg, Waldeck, and Zinzendorf each one. Among all these 182 related persons, there is not a single genius or individual worthy of grade (9) or (10) for intellect. The only two in (8) are Ernest II[80], of Gotha (died in 1801), who was a distinguished astronomer, and the talented Louise Dorothea[91], of Saxe-Meiningen, who corresponded with Voltaire, and was called the "German Minerva." She was the mother of Ernest II[80], the astronomer. Also there was no fool, imbecile, or moral degenerate among them all as far as is known.

From Ernest the Pious, on, *selection* was constantly made of men and women of his own type, so that sound judgment, high moral qualities, and strong literary taste continually reappeared, and were never lost even after nine generations. There were among this group of 182 (counting a person every time he occurs) no less than eighteen who were authors or had strong literary tastes. In the most remote generation we find five in thirty-two; in the next, three in sixteen; in the next, one in eight; in the next, two in four; in the next, two in two; and in the next, two in two; the remaining three occur in the more recent part of the chart, and are even more closely related. Thus we see Ernest the Pious, and Augustus of Brunswick[173], who were both literary, perpetuated down the line in this family by the force of intermarriage and selection.

The intellectual average is everywhere near the mean

or slightly above, and the moral average is everywhere near the mean or very much above it. There being not a single bad character introduced into the blood directly, the children apparently could not turn out badly. It is the cleanest and best pedigree to be found in all royalty, and its influence on European history has come to be very great, since its very merits have entitled it to several thrones. In fact, it can be shown that no royal family has been able to maintain itself without degeneration, unless it has taken a good share of Saxe-Coburg blood. The good qualities, if due to heredity at all, in Austria, England, Germany, Belgium, and Bulgaria, are largely due to it. It probably saved the Bourbons in Portugal.

Thus, in tracing the pedigree and accounting for the virtues of Albert, consort of Queen Victoria, we find the theory of mental and moral heredity sufficiently sustained in *his* case, as well as in the others. At least five of the close relations of the consort may be considered as almost exact repetitions of his character. These are his grandfather, Francis[48], his two uncles, Ferdinand and Leopold I, King of Belgium, his brother, Ernest, and cousin, Ferdinand, of Portugal.

The family of Saxe-Coburg-Gotha shows by its 182 members here represented, that the assumption of high rank and power and the consequent opportunity for ease and luxury do not in the least tend to degeneracy of the race when the good qualities are kept up by marriages with stocks of equal value and no vicious elements are introduced into the breed. A parallel to this is found in Prussia and also among the kings of Portugal during its days of supremacy, where for twelve genera-

tions nearly every sovereign had all the wisdom and strength required of a ruler.*

* The grades for this family are based on all the combined and averaged opinions; from Allgemeine deutsche Biographie; Biographie universelle; Lippincott's; Limmer, "Neu Sach. Land;" A. Beck, "Gesch. d. gotaischen Landes;" J. T. Philipps, "Ernestus the Pious;" Doran "Queens of Hanover;" Jesse, "Geo. III;" "Life of Caroline Matilda." *See Appendix.*

The houses Saxe-Meiningen and Reuss-Ebersdorf including individuals from [85] to [114], give many "obscure" characters and none above mediocrity; hence a detailed account of them is omitted. On looking up their ancestry one finds no distinction.

CHAPTER IV

House of Mecklenburg, 1558–1860

[115] — [172]

In order to make at all complete the pedigrees of modern royalty, it is necessary to consider this ancient, but comparatively unimportant ducal house, which has always ranked on a social footing with even the most powerful of royal families, and has from time to time intermarried with many of them. Famous queens of Russia, Prussia, and Great Britain have come from this obscure little province, among whom may be mentioned Charlotte, the consort of King George III, of England, and Louisa, the beautiful mother of the Emperor William I, of Germany. A study of this house is very instructive from the scientific standpoint, though in a purely negative way, for although the family has been a large one and has maintained social prestige since A.D. 960, it has never produced one single great man, or a prince of sufficient distinction to even be mentioned in Lippincott's "Biographical Dictionary." Although the full pedigree of the Mecklenburg house is not printed in these pages, it may be stated with assurance that this mediocrity is entirely in keeping with heredity, for there were no distinguished strains introduced at any time as a graft on the old family tree. On the moral side, however, the Mecklenburgs have made a good showing, and as far as known have had no degenerates among their numbers during the period

here covered; quiet, simple, domestic tastes have been the characteristics of the members of this family, so that physiologically its influence has been good, both on royalty and European history. In supplying ancestry on the maternal side for the house of Hanover, it is necessary to go back among the Mecklenburgs as far as Duke John[115], who lived in the sixteenth century, and became the father of the two branches of the family, Schwerin and Güstrow. The former branch is composed of the descendants of Adolphus Frederick I[116], whose son, the second of the same name[130], formed the branch of Strelitz, and became the grandfather of Charlotte, queen of George III, of England. The branch of Güstrow from John Albert[118], younger son of John[115], is important as containing two princesses who were wedded to the houses of Denmark and Brunswick, and became ancestors of various persons studied in this work.

Biographical dictionaries, histories, and court memoirs have been thoroughly searched for records of these various Mecklenburg branches covering individuals numbered [115]–[172]. All were obscure or nearly so, mediocre or of but slight celebrity. For this reason, further details would have little interest. All, however, about whom any records were found, are included in lists of grades, and, therefore, in the final statistics. One branch of the Mecklenburgs may be seen on the chart for the house of Hanover, p. 50.*

* For Bibliograph, *see Appendix.*

CHAPTER V

House of Brunswick

[173] — [217]

The families heretofore studied, Hanover, Saxe, Reuss, and Mecklenburg, have given us few striking traits, save the marked inherited virtues and literary tastes of Saxe-Coburg-Gotha. The house of Mecklenburg was found to be both mediocre and moral, Reuss would be much the same, while Hanover showed in each generation a certain number of black sheep without departing much from the average so far as intellectual ratings are concerned.

The house of Brunswick-Wolfenbüttel, now discussed, gives us a few brilliant members, the first yet met with; but the striking and interesting characteristic of the family is the large number of authors and others with strong literary tastes, distributed over the succeeding generations. We shall see that heredity perfectly accounts for both the intellectual distinction and the imaginative temperament, which here takes the form of authorship.

From Augustus[173], of Brunswick-Wolfenbüttel, b. 1579, d. 1666, to William[217], b. 1806, we have forty-four members of the direct line who are available for study. Among these we find in the intellectual grades, one in (9), **Amelia,** of Saxe-Weimar, the distinguished patron of men of learning; three in (8), William Adolphus[207], an author, Charles William Ferdinand[202], the celebrated general of the Seven Years' War, and Juliana, the notoriously ambi-

tious and unprincipled queen of Frederick V, of Denmark. **Amelia,** of Saxe-Weimar, Charles William Ferdinand, and William Adolphus were nieces and nephews of **Frederick the Great,** and also of the above-mentioned Juliana. These are all closely related, and the generation to which Juliana belongs also contains Ferdinand of Brunswick, a celebrated general (7); but this "fraternity" does not average quite as high as the next, which contains **Amelia,** William Adolphus, and Charles William Ferdinand, which generation was formed by a union with the Hohenzollerns at the summit of their greatness.

Among the forty-five[173]–[217] here studied, we find five distinguished generals, and twelve who were either authors, or showed distinct literary tastes. The following list will show the literary members of the family, and the generals as well, during the first five generations.

First Generation.

(7) (7) Augustus [173]. Gentle disposition. An author. b. 1579, d. 1666. ═ (7) (6) Sophia [165] of Mecklenburg. Religious. An author.

Second Generation.

Rudolph [174]. An author.	Sibylla [175]. An author.	Clara [176]. "Obscure."
(7) (5) Anthony [177]. A distinguished author. b. 1633, d. 1714.	(7) (8) Ferdinand Albert I [178]. An author. Pious nature.	Marie [179]. "Obscure."

Third Generation. Children of [177].

(5) (6) Elizabeth [180]. An author. "A poetess of spiritual songs."	Anne [181]. "Obscure."	Augustus William [182]. Religious and devoted to mathematics.
Augusta [183]. "Obscure."	Henrietta [184]. "Obscure."	(5) (5) Lewis Rudolph [185]. Good-natured and popular; of no great talents.

Third Generation. Children of [178].

Sophia [189]. "Obscure."	(7) (8) Ferdinand Albert II [190]. A somewhat distinguished general, b. 1680, d. 1735.	Ernest [191]. "Obscure."

Fourth Generation. Children of [185].

(6) (8) Elizabeth [186]. Charming, amiable, religious, intellectual. m. Charles VI of Austria[622].

(6) (9) Charlotte [187]. Amiable and estimable. m. Alexis of Russia.

(5) (5) Antoinette [188]. Charming princess. Negative traits. m. Ferd. Albert II [190].

Fourth Generation. Children of [190] *and* [188].

(3) (8) Charles [192]. Good-natured and upright. Of inferior capacity.

(5) (8) Ulric [193]. Fine character.

(4) (9) Elizabeth [194]. An author.

7) (8) Lewis [195]. Distinguished general. Literary.

(7) (9) Ferdinand [196]. Celebrated general.

(4) (5) Louise [197]. A negative character. m. William Augustus of Prussia.

Sophia [198]. "Obscure."

Christina [199]. "Obscure."

Theresa [200]. "Obscure."

(8) (3) Juliana[201]. X Ambitious and intriguing.

Fifth Generation. Children of [192].

(8) (6) Charles [202]. Celebrated general in the Seven Years' War. b. 1735, d. 1806.

Caroline [203]. "Obscure."

(9) (8) **Amelia** [204]. Famous in literature at Weimar.

(7) (8) Frederick [205]. An author. Also an excellent commander.

(7) (3) Elizabeth [206]. X Brilliant, but bad in morals.

(8) (9) William [207]. An author. Many brilliant qualities.

Augusta [208]. An abbess.

Maximilian [209]. A hero. Died young.

There were during these five generations no less than twelve literary persons in the direct male line. The perpetuation of this talent is to be accounted for, first, by the marriage of August[173] with the authoress Sophia, of Mecklenburg; second, that of Ferdinand Albert II[190] in the third generation with his cousin Antoinette, of Brunswick[188]; and third, the marriage of Charles[192] with Charlotte, the studious and cultured sister of **Frederick the Great** (*vide* his relationship, p. 77). From now on, literary or military ability was absent in the house of

Brunswick, and the story of the last two generations is but the sad extinction of a once illustrious and honored family. All the members of these later generations brought themselves into prominence only in some unpleasant way. A congenital psycho-neurosis made its appearance, the origin of which may be surmised, though not incontestably proved.

The characteristics of the last two generations of the house of Brunswick are given below.

Sixth Generation. Children of [202] *and* [17].

(6) (3) Augusta [210]. X Censured for her immoralities.

Charles [211]. "Obscure."

(5) (2) Caroline [212]. X "Folly verging on disordered intellect." Married George IV of England.

(1) (?) George [213]. Suffered from mental weakness. Resigned the inheritance.

(2) (?) August [214]. Suffered from mental weakness. Resigned the inheritance.

(4) (4) William [215]. Dauntless and gloomy soldier. Killed at Quatre-Bras. "Amours carried to a high degree."

Seventh Generation. Children of [215].

Charles [216]. Eccentric. His misrule caused his expulsion.

William [217]. Remembered as a nymphomaniac, but was an intelligent administrator.

This group of relatives in the last two generations shows clearly enough an inherited psycho-neurosis, still one would hardly have expected this massing of the degeneracy and none free and normal, unless it be [211].

The father and mother of the above sixth generation both escaped the mental unbalance; but the facts which suggest an inherited tendency are, that George III, of England, who became insane, was an uncle of the mental

weaklings George[213] and August[214], that Frederick William I, of Prussia[227], was a great-grandfather of these children, and that their father and mother were second cousins, related through the Palatine house. This question is discussed under Denmark, where it is shown to be very probable that all these related persons who possessed unfortunate natures, derived their peculiarities from the same source.

Be that as it may, we should not expect the sixth generation to have made such a poor showing, so that these last two "fraternities" * must be considered an exception to the theory that heredity can be relied on to account for mental and moral traits.

There are here, however, not more than three persons who can be considered exceptions. It might be expected that one or two of the children of the sixth generation would show undesirable qualities in taking after their maternal grandparents, Frederick, Prince of Wales[10], and Augusta, of Saxe-Gotha[78]. There are, however, five among the six, instead of one or two.

The house of Brunswick, then, illustrates a decline which is often considered common among aristocratic families, that is, a degeneration possibly due to the assumption of rank and power, and consequent tendency to ease, dissipation, and decay.

Jacoby † has tried to show that the majority of royal and powerful families tend to end in degeneration and sterility. On the contrary, degeneration without a corresponding pollution of blood, a contamination sufficient in itself to explain the condition, I believe to be exceed-

* See footnote, p. 81.

† Études sur la Sélection, etc.

ingly rare, and I may say that there are no instances of such a degeneration, with the exception of this partial example, among all the royal families that I have studied.

The grades for Brunswick represent the combined and averaged opinions of Allgemeine deutsche Biographie; Lippincott's; Biog. Univers.; Von Heinemann, "Gesch. von Braunschweig," vol. iii; Wraxall, "Posthumous Mems."; W. Coxe; D. Thiébault; and Leibrock, "Chronic des Fürstenthums Blankenburg." *See Appendix.*

CHAPTER VI

The Hohenzollerns in Prussia

[218 – 256]

The history of the reigning family of Prussia is a long series of almost steady advances by which the Hohenzollerns have raised themselves from an obscure little countship on the borders of the Black Forest, to the throne of the chief kingdom of Germany, and the sway of the imperial scepter. Although ancestors of the present Kaiser are mentioned in history as long ago as the twelfth century, in the reign of the Franconian emperor, Henry IV, it is only comparatively recently that the Hohenzollerns have ranked with important royal families of Europe. The ancient counts were a thrifty lot, and by marriages with heiresses and by other means, slowly enlarged their dominions. In 1363, Frederick V was raised to the rank of prince. In the next century the Electrate of Brandenburg was obtained by Frederick VI in return for loans to the Emperor Sigismond.

Thus, little by little, the family influence was extended; still, great and distinguished warriors were not born to the house of Hohenzollern. In fact, during all the first six hundred years of their history down to the time of the Great Elector of Brandenburg, only one member of the family, Albert Achilles, was what one might call a very distinguished man. From Albert Achilles to the **Great Elector** seven generations passed; and in the per-

sonality of the latter we see the first of that brilliant group who made Prussia one of the important powers of Europe.

The early history of the house will not be considered; but the portion which will be treated of, begins with John Sigismond[218], of Brandenburg, who died in 1610, and ends with the last generation, which at present is no longer in the land of the living, to which belonged the Emperor Frederick William I[256].

Although 217 persons have been dealt with in the various male lines already studied in the previous chapters, and several hundred more have been introduced as ancestors on the various maternal lines, there have been but two persons yet encountered who were remarkably brilliant, or worthy of grades (9) and (10). We now come to a family containing many in the highest grades, and forming one end of a long chain of genuises which includes the greater proportion of all of such stamp found anywhere in modern royalty. If we should make a great chart including all the countries studied, and place on it every person in his proper blood relationship to every other person, we should find two or three little areas where nearly all of the most illustrious names would be located. One of the seregions (given in the chart here), and indeed the largest, would begin with the families of Montmorency, Condé, and Coligny, include the house of Orange, and end with the Hohenzollerns in Prussia.

The perpetuation of these intellectual traits can be sufficiently accounted for by the *selection* of the most highly endowed in each generation, as ancestors for the next. There were others who were mediocre not included in this chart. We need introduce no further causes.

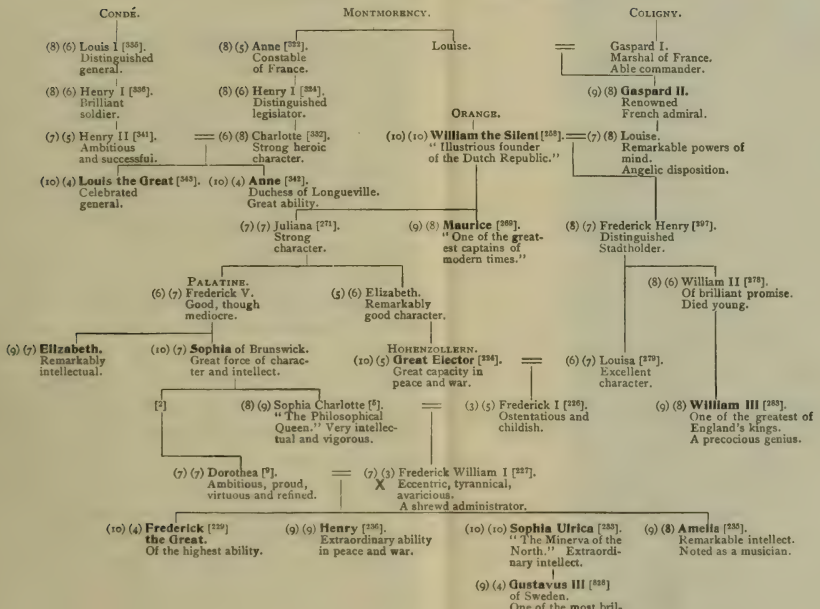
Since the interesting point in this chapter is the origin and inheritance of ability, we may pass quickly over the first two generations which contain John Sigismond[218] and George William[219], grandfather and father of the **Great Elector**[224]. George William was especially weak for a Hohenzollern, and in no other paternal ancestor is there any evidence that the talents of the **Great Elector** came from his father's family. On looking up his pedigree, however, one finds that his mother was a granddaughter of **William the Silent.**

There is every reason to believe that the **Great Elector,** of Brandenburg, was one of the numerous geniuses descended from **William the Silent,** even if he did stand as far removed as a great-grandson. **William the Silent** left no less than thirty-two grandchildren, so that it might be expected that among the many in the near generations some few might revert again to the highest grade.

The **Great Elector** was also a first cousin of the famous Prince Rupert and also of that cavalier's two sisters, **Sophia, Duchess of Brunswick** (10), and **Elizabeth, of Palatine** (9), a very profound intellect. This relationship was by way of Frederick IV, of Palatine, who had married a daughter of **William the Silent** (10).

Every marriage from now on to **Frederick the Great,** brings in again this brilliant strain containing the celebrated names in the families of Montmorency, Coligny, and Orange. **Frederick William, the Great Elector**[224], was himself a man of the highest attainments and force of character. He received his country in an extremely desolate condition, and accomplished the greatest results with the least resources. He was considered one of the ablest men of his day. He married his cousin Louisa[279],

A GREAT GROUP OF GENIUSES.


CONDÉ.
MONTMORENCY.
COLIGNY.
(8) (6) Louis I [335]. Distinguished general.
(8) (5) Anne [332]. Constable of France.
Louise.
Gaspard I. Marshal of France. Able commander.
(8) (6) Henry I [336]. Brilliant soldier.
(5) (6) Henry I [334]. Distinguished legislator.
(9) (8) Gaspard II. Renowned French admiral.
ORANGE.
(7) (5) Henry II [341]. Ambitious and successful.
(6) (8) Charlotte [332]. Strong heroic character.
(10) (10) William the Silent [258]. "Illustrious founder of the Dutch Republic."
(7) (8) Louise. Remarkable powers of mind. Angelic disposition.
(10) (4) Louis the Great [343]. Celebrated general.
(10) (4) Anne [342]. Duchess of Longueville. Great ability.
(7) (7) Juliana [271]. Strong character.
(9) (8) Maurice [269]. "One of the greatest captains of modern times."
(8) (7) Frederick Henry [297]. Distinguished Stadtholder.
PALATINE.
(6) (7) Frederick V. Good, though mediocre.
(5) (6) Elizabeth. Remarkably good character.
(8) (6) William II [278]. Of brilliant promise. Died young.
(9) (7) Elizabeth. Remarkably intellectual.
(10) (7) Sophia of Brunswick. Great force of character and intellect.
HOHENZOLLERN.
(10) (5) Great Elector [256]. Great capacity in peace and war.
(6) (7) Louisa [279]. Excellent character.
[2]
(8) (9) Sophia Charlotte [6]. "The Philosophical Queen." Very intellectual and vigorous.
(3) (5) Frederick I [226]. Ostentatious and childish.
(9) (8) William III [283]. One of the greatest of England's kings. A precocious genius.
(7) (7) Dorothea [9]. Ambitious, proud, virtuous and refined.
(7) (3) Frederick William I [227]. Eccentric, tyrannical, avaricious. A shrewd administrator.
(10) (4) Frederick the Great [229]. Of the highest ability.
(9) (9) Henry [236]. Extraordinary ability in peace and war.
(10) (10) Sophia Ulrica [253]. "The Minerva of the North." Extraordinary intellect.
(9) (8) Amelia [235]. Remarkable intellect. Noted as a musician.
(9) (4) Gustavus III [238] of Sweden. One of the most brilliant of all royalty.

a granddaughter of **William the Silent** (10), and daughter of Frederick Henry (8), the distinguished stadtholder. She was also a great-granddaughter of **Gaspard de Coligny** (9), the great admiral of France. Louisa was herself a strong character of a "mild, sympathetic, and deeply religious nature."

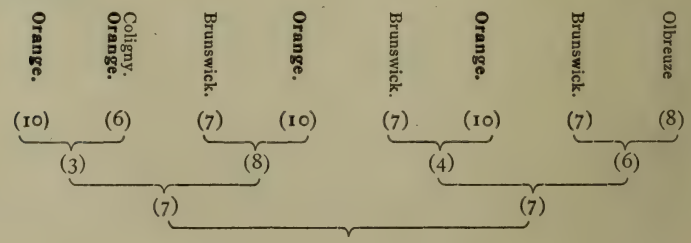
The only child of the **Great Elector** and Louisa, who reached maturity, was Frederick I, of Prussia[226], who did not realize the promise of such an inbreeding of brilliant qualities. If more children had been born, doubtless some might have reduplicated their illustrious sire. This son, Frederick, spent most of his petty thoughts on rank and ostentation, and only advanced the family prestige in so far as he realized the ambition of his life in receiving the crown of Prussia. Thus the Hohenzollerns were now kings. Frederick married his second cousin, a daughter of the same great **Duchess of Brunswick** (10) mentioned above, so we have again a breeding-in of the best stock of Orange. Her father also was a talented man, Ernest Augustus, of Hanover[1], and falls in grade (7) for intellect. This queen of Frederick I[226] was Sophia Charlotte. She had high ideals, and an important influence over political actions. She was really profoundly interested in astronomy, archæology, and moral philosophy, and formed a warm friendship with Leibnitz. She is generally called the "Philosophical Queen," and would, from the testimony regarding her, be placed in a grade as high as (9) for intellect were her name in Lippincott's "Biographical Dictionary." Since, to gain the advantage of an arbitrary and impersonal standard, I have not placed in the two highest grades names which do not appear in Lippincott's, and also receive high

praise for mentality, the "Philosophical Queen" must be ranked in grade (8).

Her only son was Frederick William I of Prussia[227], the eccentric old father of the great **Frederick,** and a most remarkable character. He was not very cultivated, and especially despised literature, but was a man of iron will, with great ability in certain lines, and succeeded in carrying out his strange determinations. He it was, who scoured all the countries of Europe to secure the tallest men to add to his giant Potsdam Guard. Avaricious to an extreme, he cared only for saving money and forming and drilling an army; and although, as Macaulay says, "such eccentricities were never seen outside of a mad-house," he nevertheless left the country in a stronger condition than he found it.

Now in its turn, the marriage of Frederick William I[227] bred in again the same Orange strain. His queen was his first cousin, Sophia Dorothea, of Hanover[9], a granddaughter of the same **Sophia,** Duchess of Brunswick (10). She was an ambitious, proud, and virtuous woman, somewhat above the average in intellect. Therefore, now, this great stock is repeated four times in the pedigree. Besides this we have four other great-grandparents of high standing.

Thus the pedigree of **Frederick the Great** stands for intellect:



It will be noticed that only two are below mediocrity. From this remarkable union were produced, out of ten children, five of the most illustrious persons contained in this study. These were: **Frederick the Great** (10); **Henry,** his almost equally great brother (9); Charlotte, Duchess of Brunswick (8), who had a remarkable mind, literary tastes, and fine character (Wraxall said of her that he scarcely ever met a woman in any walk of life who possessed an understanding more enlarged and cultivated); **Amelia** (9), "endowments of mind said to have been extraordinary," had a remarkable talent for music;* and **Louisa Ulrica,** Queen of Sweden (10), called the "Minerva of the North." The other five included Frederica Sophia, of Baireuth, whose memoirs are considered very interesting.

Frederick the Great also had a number of nephews and one niece who were very richly endowed mentally. As some of these would escape mention elsewhere, they are here enumerated:

1. **Gustavus III, of Sweden** (9).
2. Sophia Albertina, his sister (8).
3. Augustus Frederick of Prussia (8); reputed the first artillery officer in the Prussian army.
4. Louis, a son of Ferdinand of Prussia (8); distinguished talents.
5. **Amelia, Duchess of Saxe-Weimar** (9); the distinguished patron of genius and learning, of Wieland, Herder, Goethe, etc.
6. Charles William Ferdinand (8), of Brunswick; "celebrated commander."
7. William Adolphus (8), of Brunswick; versatile, brilliant, and an author.

* Lippincott's.

Such a union of high talents, found here about **Frederick the Great,** is certainly remarkable, and bears out Galton's idea that of all great men, the greatest commanders have the greatest number of eminent relations.

Frederick the Great had in the first degree of relationship, in spite of having no direct descendants, one in (10), two in (9), and one in (8). In the second degree, two in (9), and five in (8). Three of his great-grandparents were in grade (10). It is very easy to account for this high wave of intellect, for in the first place, among the sixty-two ancestors who lie in five degrees of remoteness, one finds only two in a grade below (4) and only one below (5). These were Frederick I, of Prussia, and George William, of Brunswick, who were in (3). Both lie remote. This display is indeed remarkable, and I doubt if the same would be true of any other chart, or of any other family that has ever lived. In the second place, one sees the house of Orange four times in the fourth generation. This of itself would probably create only a small effect, since this entire generation is considered to have only $6\frac{1}{4}$ per cent of influence, but we see here a fortunate selection of the best, and four of its greatest descendants are found among the third degree of remoteness, and one in the second degree. Then the remaining part of the pedigree is filled in with what is best in the house of Brunswick, together with Eleanor d'Olbreuze, a remarkable character.* She was of a good Dutch Huguenot family.

Among the forty included in this group (all ancestors of **Frederick the Great** to third degree, with nieces and nephews), we find five in (10), four in (9), six in (8),

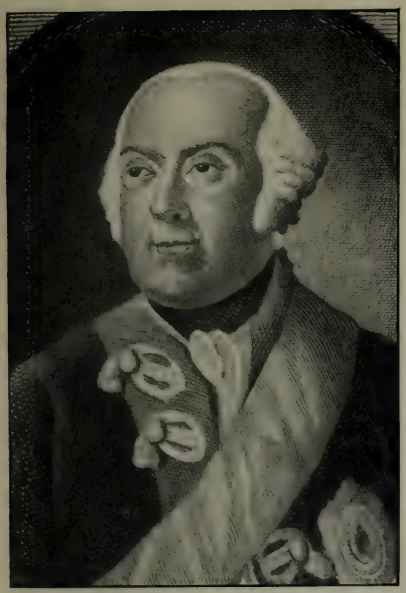
* See Wilkins, " Love of an Uncrowned Queen."

FREDERICK WILLIAM I [227].

SOPHIA DOROTHEA, QUEEN OF PRUSSIA [9].

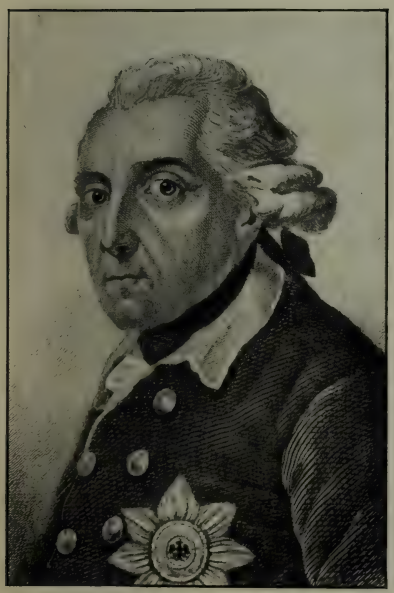
LOUISA ULRICA, QUEEN OF SWEDEN [233],
Sister of Frederick the Great.

HENRY [236].
Brother of Frederick the Great.



FREDERICK WILLIAM II [228].

AUGUSTA OF SAXE-GOTHA [78].
Mother of George III of Great Britain.



FREDERICK THE GREAT [229].

CHARLOTTE, DUCHESS OF BRUNSWICK [231].
Sister of Frederick the Great.

seven in (7), or nine of these forty are "geniuses" (9) or (10); and twenty-two are high in the talent class. There are strong literary and musical inclinations among the descendants, and hereditary influence can be traced through both the mother and paternal grandmother of **Frederick the Great,** straight back to the house of Orange from which it probably came. This is in spite of the fact that **Frederick's** father was entirely hostile to literature. The bent appeared decidedly in five of the ten. In the others it seems to have been absent. The pedigree calls for about half of them to show this imaginative type of mind, if we couple to the pedigree this idea: that strong mental characteristics do not freely blend, but tend to jump about, and, if appearing at all, appear in almost full force in those who are so fortunate or unfortunate as to inherit them in any conspicuous degree.

Before closing this chapter it may be of interest to glance back at this wonderful chain of great names, here extending through more generations than has probably ever been the case in the history of the world. It is particularly suggestive of what might be done with the human race were mankind ever so inclined.

Starting with Gaspard de Coligny, Marshal of France, who died in 1522, we can trace genius for the leadership of men through no less than ten generations as far as **Gustavus III,** of Sweden, and Charles William Ferdinand, the celebrated commander in the Seven Years' War, who, as nephews of **Frederick the Great,** are the last of the long line of intellectual princes. Gaspard's son, the great **Admiral of France,** even exceeded his father. The daughter, Louisa, married **William the Silent. William the Silent,** himself one of the greatest

men in all history, was the father of **Maurice,** "one of the greatest captains in modern times," and also of Frederick Henry, celebrated Stadtholder in Holland and able statesman. Frederick Henry had a daughter Louisa who married the **Great Elector of Brandenburg,** who was a descendant of **William the Silent.** The Great Elector's son married the "Philosophical Queen," who was another descendant of the same stem; and she was the grandmother of **Frederick the Great** and also of **Louisa Ulrica** the brilliant mother of **Gustavus III,** of Sweden, whose talents were phenomenal, and who is said to have been "so accomplished a gentleman that there was scarcely a professor of literature or any of the liberal arts, but he was able to excel each in his own peculiar study." *

This long perpetuation of genius does not prove too much. It does not mean that other forces than heredity must have been at work, or we should expect reversion to mediocrity again; for all of these were but a few out of the many descendants of the original Gaspard, and many of the others who were but mediocrities more or less, if averaged with these, would give us that reversion to the mean which the "Law of Ancestral Heredity" calls for. All the way down the line we see the marriages bringing in again the brilliant stock, so that in each generation some few repeat again the illustrious personalities of their ancestors.

Summary of the Hohenzollerns

From John Sigismond[218], of the sixteenth century, to the Emperor Frederick William[256], of the nineteenth, we have thirty-nine members in the direct line, who arrived

* Brown, "Northern Courts," vol. i, p. 341.

at adult years. To this number we may add the ancestors brought into the family on the maternal side, in each generation.

It is more convenient to treat this house under two subdivisions: (*a*) The six generations down to **Frederick the Great;** (*b*) The four subsequent generations. By making these two divisions, we at once divide the family history into a brilliant period and a mediocre period. The first contains the illustrious Orange and Palatine ancestry already described; the second is made up of ancestry devoid of genius.

(*a*) By adding sixty-three ancestors and collaterals on the maternal side, to the first six generations, we can bring together a group of eighty-two who may be contrasted with the eighty-nine on the Hanover chart (p. 50) On the Hanover chart there is but one in a grade as high as (9). Here we find ten as high as (9). There was but one in grade (8) among the Hanover connections. Here we find seven in grade (8). This appearance of high intellectual variation has already been sufficiently dwelt upon and explained.

As regards the peculiar idealistic and imaginative type of mind found in Frederick the Great's "fraternity,"* environment could not properly account for either the appearance of the artistic taste or the fact that only half of the children showed it. This literary bent should be compared with Hanover, where eighty-seven persons show only four authors, and these are every one of them in the extreme background, and consequently do not influence

* This word is frequently used in these pages in the sense proposed by Galton — as a generatio nof brothers and sisters, equivalent to the German Geſchwiſter.

the family (or male line) itself. Among those in the house of Hanover, quite a number of the princes were fond of study, but none were authors.

(*b*) **Frederick the Great** and his brother **Henry** left no descendants. In the next generation the great qualities died out in the house, because only two of the males had heirs, and these were not the gifted members of the family. One, William Augustus[234], was weak and fond of pleasure, and was the son who resembled his grandfather Frederick I. He married Louisa[197], a daughter of Ferdinand Albert II, of Brunswick, an insipid woman of no gifts, with an ancestry virtuous and literary, but not talented politically.* They had a son, Frederick William II[238], and a daughter. The son, who had the best of education and example, was a virtuous man of average capacity, but timid and irresolute. As Frederick William II, who was *not* brilliant, married a woman below the average capacity and of a mediocre family, by the next generation all brilliancy was removed to one great-great-grandparent, out of the sixteen the children had, and to eight of the thirty-two great-great-great-grandparents, which according to the laws of heredity would be a factor of extremely small value; so it is not surprising that it never came out again in this line, unless the present Kaiser be equal to them and represent extreme reversion. His abilities are perhaps derived from fresh combinations.

Among the collaterals similar dilution, or lack of any issue at all, can be shown. Thus, one of the greatest strains of intellect the world has ever seen finally disappeared. Quite unconsciously on their part it was formed.

* See Brunswick.

Its formation appears to be due to a remarkable combination of ingredients of blood. Three sources of the best from the great house of Orange were united with the **Great Elector of Brandenburg,** who probably himself received his genius from the house of Orange. Its disappearance might well have been due to dilution in some branches, to accident or sterility in others. Probably the only strain in modern times, in royalty or out, that can show such a quantity of eminent relationship, and of such a high degree, is the same region about **William the Silent** that we have shown we consider the origin of this.

The relation of this blood to the course of Prussian, German, and even to the world's history, should not be overlooked. If it is accepted that these characters were what they were owing largely to heredity, then it follows that Prussia's rise under the **Great Elector,** her growth under Frederick William I's vigorous policy, and subsequent greater growth under **Frederick II,** together with the Seven Years' War, must, since historians all ascribe great influence to these sovereigns, find their ultimate explanation in these charts of descent. The theories of heredity appear to be very nearly satisfied. If we consider that opportunities or the times were the chief causes, we must have a wonderful knowledge of all the intricate effects of these media in order to explain the facts in this way. The theory of chances seems here to be in danger, while the theory of chances can be shown to be pretty well satisfied by the laws of heredity.

Regarding the moral characteristics of the Hohenzollerns, there were only a few who fell short. It corresponds perfectly in a general way with the pedigree. It

is noteworthy that here, as in Hanover, no atrocious and violent characters appeared in the family, nor were any introduced in the pedigree from other families. In this respect these countries should be contrasted with Russia, Spain, France, and Italy.

Another instructive lesson to be drawn from the Hohenzollerns is that blue-blooded families do not necessarily degenerate. Here we have a line that for a thousand years has occupied an exclusive position, and yet we find it composed to-day of active, intelligent, and moral persons. We cannot rightly affirm that this and the houses of Saxe-Coburg, Nassau, and Mecklenburg are but exceptions which prove the rule, for a careful analysis shows us that all these excellent outcomes are to be expected from a study of their many different good ingredients of blood which have accidentally been brought together from various countries of Europe.

The grades in this chapter are based on all the combined and averaged opinions of the following: Allgemeine deutsche Biog.; Lippincott's; L. von Ranke, "Prussia"; Biog. Univers.; Wraxall; Ency. Britannica; Coxe; Vehse, "Prussia"; "Thiébault Souvenirs," etc.; H. Tuttle, "History of Prussia"; Von Heinemann, "Gesch. Braunschweig"; Carlyle's "Frederick the Great"; E. H. Hudson, "Life and Times of Louisa, Queen of Prussia." *See Appendix.*

CHAPTER VII

House of Nassau

A. Elder Branch of Orange, 1487–1708

[257] — [283]

Of all royal families, perhaps none ever exceeded in heroism and genius the princely house of Nassau-Orange. Embroiled in the turmoils of the Reformation, and the struggle for national independence, the descendants of old William of Nassau became famous as men of tenacity and valor, and as women of energy and goodness. In the early period of the history of the house, a chief of the family now and then enlarged his dominions by marriage with a wealthy heiress, or played some rôle of importance in the history of the times, but only during the years of **William the Silent** and after, do we find truly illustrious names in the family of Nassau-Orange.

From William the Elder (1487–1559) to the Prince of Orange, who became **William III,** of England, we have five generations, and twenty-seven persons in the male line who reached adult years. Among them we find five military generals extending through the last four generations: **William the Silent** (10), **Maurice** (9), Frederick Henry (8), William II, Prince of Orange (8), and **William III,** of England (9). Besides these we have seen in the house of Hohenzollern how the same genius was transmitted much further; but this is neces-

sarily as far as it can be traced in the male line here, as this became extinct with the death of **William III.**

This group of five remarkable characters exhausts the list as far as the name of Orange is concerned. These five are, however, but a few in the long chain of distinguished characters, already referred to under Hohenzollern, which group may be called the main intellectual strain of modern royalty. One end of this chain is seen in the neighborhood of **Frederick the Great ;** the other end, or beginning, is found in the family of Montmorency; and the middle of the chain — equally strong with the others — is here among the relatives of the great founder of the Dutch Republic. (See foregoing chart.) The above-mentioned great men of Orange were father, two sons, grandson, and great-grandson.

William the Silent, who was the first of this remarkable line, was in every way one of the greatest of princes in modern Europe. Whatever may be his rating, when compared with all men of all time, in comparison with other royalty, there can be no question but that he belongs, both mentally and morally, in the highest grades. "In 1555, when he was but little over twenty-two years of age, he was preferred to the command at a critical moment of the emperor's career, over the heads of veteran soldiers much senior to himself." * "His enemies," Motley writes, "never contested the subtility and breadth of his intellect, his adroitness and capacity in conducting state affairs, and the profoundness of his views. In many respects his surname, 'the Silent,' was a misnomer. William of Orange was neither silent nor taciturn, yet these are the epithets which will be for ever associated

* Frederick Harrison.

with the man who in private was the most affable, cheerful, and delightful of companions, and who, on a thousand public occasions, was to prove himself, both by pen and speech, the most eloquent man of his age."

The father and mother of **William the Silent** were both excellent characters, and the son doubtless inherited many good qualities from them, but neither the parents or other ancestors were in any way remarkable, so **William the Silent** must be considered a new variation (*mutation* or *sport*). Although he himself cannot be taken as an instance of heredity, all his descendants can. **William the Silent** married four times and left eleven children who reached the age of thirty years. In the character of the mothers of these children and in their immediate ancestors we find an explanation of the fact that the genius of Orange was perpetuated without reversion to mediocrity.

His son **Maurice,** the famous general, had for his maternal grandfather his namesake, the celebrated **Elector of Saxony** (9), and for a great-grandfather, Philip Landgrave of Hesse (7), called the Magnanimous.

This second son of **William the Silent, Maurice,** Prince of Orange, surpassed in some ways even his father. His character, however, was less strong. In the "Lives of Prince of Orange," we find the following paragraph: "This great captain has falsified the proverb which says that the children of heroes are generally good for nothing, for though he was the son of a most excellent father, who left behind him an immortal glory, yet he not only equaled him in his prudence and greatness of soul, but likewise surpassed him in the art military, and in his great performances."

Frederick Henry (8), the younger brother of **Maurice,**

less bold and brilliant, is, however, to be regarded as scarcely less capable, since he was more uniformly successful. He succeeded his brother as Stadtholder, where his administrative talents won for him a lasting reputation of a very high order. Frederick Henry was a child of the fourth marriage of William the Silent. His mother was a daughter of **Gaspard de Coligny** (9), the great admiral of France, himself of distinguished stock, and the most remarkable member of the Montmorency-Coligny combination. Frederick Henry married Amelia, of Solms, a woman of fine character and high mental endowments. It is not surprising that his son William II (8), who died young, should have been a prince of brilliant parts and exceeding high promise. There were four sisters of William II, but these were not far from mediocrity.

In the next generation, William II, of Orange, married Mary, a daughter of Charles I, of England, so that the relatively poor blood of the Stuarts was introduced. He had but one child, **William III** (9), who became one of the greatest of England's kings. That the last of the line took from the paternal rather than the maternal side may be considered good fortune, to say the least.

Thus, besides the remarkable unions we see also a *selection*, inasmuch as the most highly gifted were sons, many of the daughters showing the reversion to mediocrity and balancing matters in the outside families, into which they married, most of whom, if they left descendants at all, left only such as never rose above obscurity.

There were, however, among the other twenty-two grandchildren of **William the Silent,** three who were exceptionally distinguished, one of whom, **Turenne** (9), ranks almost among the highest. The origin of the

genius of **William the Silent** is not quite clear, since none of his ancestry in several degrees of remoteness were worthy of being called great, although they were of sterling worth and above mediocrity. So **William the Silent** himself cannot be taken as an instance of heredity, though all his descendants can.

In order to analyze the branch of Orange by another method, the following list of all the children and grandchildren of **William the Silent** has been prepared. We can then see the proportionate amount of brilliant characters in the first two generations of his descendants. Those in grades (8), (9), or (10) are marked with an asterisk. To be in ranks (9) and (10), the persons must receive high praise in Lippincott's Biographical Dictionary. Those in (8) may not always appear in Lippincott's, but must at least receive adjectives by other authorities which amount to exceptional praise.

Descendants of William the Silent[258]

CHILDREN

a. Children by Anne, daughter of Maximilian, Count of Buren:
1. Philip William[267].
2. Mary[268].

b. Children by Anne, daughter of Maurice, Elector of Saxony;
*3. Maurice of Nassau[269] (9), "one of the greatest captains of modern times."
4. Emily[270] = Emanuel of Portugal.

c. Children of Charlotte, daughter of Lewis, Duke of Montpensier:
5. Louisa Juliana[271] = Palatine.
6. Isabella[272] = de Bouillon.
7. Catherine[273] = Hanau.

* In grades (8), (9), or (10) for intellect.

8. Flandria[274], a nun.
9. Charlotte[275] = de la Trémoille.
10. Amelia[276] = Palatine Zweibrück.

d. Child by Louise, daughter of the great Admiral Coligny.

*11. Frederick Henry[277] (8), celebrated Stadtholder.

GRANDCHILDREN

a. Children of Maurice of Nassau (illegitimate):

1. William, Lord of Leck, Vice-Admiral of Holland.
2. Lewis, Lord of Leck, Beverwyk, and Odyck, a general.

b. Children of Amelia of Portugal:

3. Mary Belgica.
4. Emanuel Felix of Portugal.
5. Amelia.
6. Anne.
7. Juliana Catherine.
8. Mauritia Eleonora.
9. Louis of Portugal.

c. Children of Louisa Juliana:

10. Frederick V, Elector Palatine.
11. Elizabeth = Brandenburg.
12. Louisa Juliana = Palatine.
13. Lewis Philip = Palatine-Simmern.

d. Children of Isabella, Duchess de Bouillon:

14. Frederick Maurice, Lord of Sedan.
*15. Turenne (9), celebrated general.
16. Mary = Henry, Duke Tuars.
17. Juliana Catherine = Francis Count Roye.
18. Elizabeth = Marquis Duras.
19. Henrica Catherine = Goyau de la Moussaye.

e. Children of Catherine of Hanau:

*20. Amelia Elizabeth (9) = Hesse Cassel.
21. Philip Maurice, Count of Hanau.
22. Catherine Juliana.
23. Henry Lewis.
24. James John.

* In grades (8), (9), or (10) for intellect.

f. Children of Charlotte de la Trémouille:
25. Henry, Duke Thonan, Count Laval.
*26. Charlotte Countess Derby (9), a skillful commander, and was "the last person in the three kingdoms who submitted to the parliament."

g. Children of Amelia = Palatine-Zweibrück:
27. Frederick Lewis, Count Palatine-Landsberg.

h. Children of Frederick Henry:
*28. William II, Prince of Orange[278] (8), a youth of great promise.
29. Louisa[279].
30. Albertina[280].
31. Henrietta[281].
32. Mary[282].

Among the twelve children there were two in a grade as high as (8). We count four distinguished grandchildren, but only four out of thirty-two, so we see a greater proportionate amount near William the Silent himself; and the greatest of the grandchildren, Turenne, occurs where he would most probably fall. He had a brilliant backing on both sides, since his father was also "a distinguished general."

Summary of Orange

The house of Orange has often been pointed out by those who wish to give examples of the inheritance of genius. As before stated, the bare existence of several generations of great men does not necessarily argue in favor of heredity. Two other conditions must be looked into. First: Were there illustrious ancestors on the maternal side tending to maintain what was already present? Second: Were there many other children who were mediocre, so that the average of all is not too high? Both these conditions were true in the house of Orange, there-

* In grades (8), (9), or (10) for intellect.

fore we may say that a closer analysis of the family proves that the theory of heredity is satisfied. Throughout the family, the moral tone remained high; and it must be remembered that we are dealing with the sixteenth and seventeenth centuries, when manners were rough, and standards low. To condone those who fell short in moral control by an easy reference to the period in which they lived, is a very common habit with historians, but the manners of the age did not produce one depraved prince of Orange, and the daughters of the house were noted for their many virtues. It corresponds throughout either with the education, or with the blood, as no bad characters were introduced, except Anne, second wife of William the Silent. She was violent, dissolute, and finally insane, but the latter descendants were not from her. She had but two children who reached maturity, and no legitimate grandchildren in the house of Orange. Except that her daughter Emily and her son Maurice were extremely headstrong, her children appear to have escaped any influence from her.

Before passing on to the younger branch of Nassau-Dietz, let us pause to consider the relation of certain germ-cells to the whole history of Holland. The national independence of the Dutch was brought about very largely by the personal efforts of the four princes of Orange, **William the Silent, Maurice,** Frederick Henry, and **William III.** Other causes undoubtedly played their share, but it is doubtful if without these men, Holland could have freed herself from the tyranny of Spain and the greed of France. The talents of **William the Silent** were undoubtedly natural, and due to what we must call a *sport* variation. But it is, perhaps, not too

much to say that the United Netherlands could not have endured, had **William the Silent** not married Anne of Saxony, and Louisa of Coligny, or the daughters of extremely able ancestors. From these chance unions sprang the other leaders, **Maurice,** Henry, William II, and **William III,** so that the people for several generations did not lack guiding spirits. At this period, Portugal and Spain were declining, and Holland was rapidly swallowing up their trade and prestige. It is shown in the chapter dealing with the royal families of the latter countries that their decline was paralleled by the contemporaneous existence of weak rulers. These weak kings of the peninsula could not have been the product of the times, since their chance pedigrees (made up from various countries of Europe) were weak and called for such characters.

The growth of Holland over the southerners was greatly favored by this disintegration in the strength of the peninsular rulers. Spain and Portugal, especially in the far East and on the high seas, were soon completely outstripped by the Dutch. For this reason, perhaps, the key to this whole great change in European history is to be found in the formation of germ-cells as determined by these little pedigrees, for at this period Holland had a remarkably good pedigree, while Spain and Portugal had poor ones. (It is always to be remembered that I use the word "pedigree," to mean a complete exposition of all ancestors, to three or four ascending generations, on the male and female sides alike.)

It is true that Holland continues to remain a prosperous and progressive nation and in spite of a mediocre pedigree for her rulers, but this is also probably a question of blood. The Dutch are one of the Teutonic group.

All the peoples of Europe belonging to this race are relatively prosperous, while those in the south of Europe are not. This whole question of the importance of blood in history, and the relative importance of sovereigns in different periods, needs much further quantitative study.

B. Younger Branch of Nassau-Dietz

[284] — [321]

This other branch of the house of Nassau from which the present ruling family of Holland is descended may be well compared with that of Orange, since for a number of years they lived and fought side by side in their struggles for liberty, and, subsequent to their divergence, took their blood largely from the same general sources that produced the geniuses already discussed. Although we find the brilliant branch of the family very largely represented in the pedigree as more remote ancestors, there was no such selection as would require heredity to place the crown of genius on the heads of any of the direct descendants. This, together with the fact that none of the princes had large families of children, seems to give a sufficient explanation why no great abilities subsequently appeared in this branch.

The following is a list of the descendants in the direct line, their maternal pedigree having been looked up in each case, complete to all great-grandparents, and the distinguished ancestors are noted.

Children of John of Orange [259] (no distinguished maternal ancestors):

(7) (?) William Lewis[284], Stadtholder of Friesland, b. 1560, d. 1620.

(6) (?) John II[285], Count of Siegen.

(6) (?) George[286], Count of Dillenburg.

"Obscure," Elizabeth[287] = Nassau-Saarbruck.
"Obscure," Julius[288], b. 1565, d. 1630.
"Obscure," Mary[289] = Nassau-Wiesbaden.
"Obscure," Matilda[290] = William, Count of Mansfeld.
(5) (5) Ernest Casimir[291], b. 1573, d. 1632.
"Obscure," Amelia[292] = Solms-Greifenstein.
"Obscure," John Lewis[293], of Hadamar, "obscure."
"Obscure," Johanna[294] = Bentheim.
"Obscure," Anne[295] = Isenburg.
"Obscure," Magdalene[296] = Erbach.
"Obscure," Anne Amelia[297] = Isenburg.

Children of Ernest Casimir[291] (no distinguished maternal ancestors):

(5) (?) William Frederick[298], Count of Nassau-Dietz, b. 1652, d. 1664.

Children of William Frederick[298]. (Had (8) Frederick Henry[277] as maternal grandparent and (10) **William the Silent**[258] as great-grandparent):

(5) (?) Henry Casimir[299], Prince of Nassau-Dietz, b. 1657, d. 1696.
"Obscure," Amelia[300], = Saxe-Eisnach.

Children of Henry Casimir[299]. (Had (8) Frederick Henry[277] as great-grandparent, otherwise no distinguished ancestors):

"Obscure," Henrietta[301], b. 1686, d. 1754.
(6) (7) John William (Friso)[302].
"Obscure," Maria[303].
"Obscure," Sophia Hedwig[304].
"Obscure," Isabella[305].
"Obscure," Johanna[306].
"Obscure," Louisa[307].
"Obscure," Henrietta[308].

Children of John William (Friso)[302]. (Had three distinguished great-grandparents, (8) Frederick Henry[277] twice, and (9) **Amelia of Hesse**):

"Obscure," Charlotte Amelia[309] = Baden-Durlach.
(4) (8) William IV[310], Nassau-Dietz.

Children of William IV[310]. (Had (8) Caroline of England as a grandmother, ancestry otherwise mediocre):

"Obscure," Caroline = Nassau-Weilburg.

(3) (4) William V[312], Prince of Nassau, b. 1748, d. 1806. Incapable and weak.

Children of William V[312]. (Had **Frederick the Great** as great-uncle, and of course other brilliant Hohenzollern relatives. Their mother was Wilhelmina[239]):

"Obscure," Frederica Louisa[313] = Brunswick.

(7) (5) William I[314], King of the Netherlands, b. 1772, d. 1843. Arbitrary ruler of considerable ability. Much praised by some and blamed by others.

(8) (9) Frederick[315], b. 1774, d. 1799. A prince of brilliant promise and high virtues, who met an early death occasioned by a malignant fever, caught in consequence of visits to the sick soldiers, in the hospitals of Venice.

Children of William I[314]. (Maternal ancestry[245], etc., mediocre):

(7) (8) William II[316].

(7) (8) Frederick William Charles[317]. Excellent man and soldier.

"Obscure," Mary[318] = Albert of Prussia.

Children of William II[316]. (Maternal ancestry mediocre, except **Catherine II,** of Russia, as a great-grandparent):

William III[319]. Of little importance.

"Obscure," Henry[320], Prince of the Netherlands.

"Obscure," Sophia[321] = Saxe-Weimar.

Reviewing the list: In the first two generations we find what we might well expect, since John of Orange[259], a brother of **William the Silent,** was, although an excellent man, in no way a genius. In the third generation we might not be surprised to see the famous qualities of the house of Orange reappearing, and heredity would demand it, if, to William Frederick[298], a large number of

children had been born; but as there were only two, these may have taken after their parents, who were "mediocre." The second generation after this (children of John William Friso) is similar, so there seems to be nothing in the history of this house to speak against heredity. The moral tone remained good throughout, and, although probably explicable on grounds of environment, is also in line with heredity. This is another example of a royal house that did not degenerate through the assumption of rank and power.

The grades in this chapter are based on all the combined and averaged opinions of the following: Biographie Universelle; Lippincott's; Allgemeine deutsche Biog.; F. Harrison, "William the Silent"; R. Putnam, "William the Silent"; Arch. Correspond. d'Orange, 2d ser. vol. iv; Prescott; Motley; C. M. Davies; L. A. Maurier; A. Young. *See Appendix.*

CHAPTER VIII

Montmorency, Condé

House of Montmorency

[322]—[334]

The family of Nassau-Orange perpetuated itself by aid of the house of Coligny; and since the Colignys, Condés, and Montmorencys intermarried freely, these three families may be considered next and treated as one group.

The pages of Betham's "Genealogy of the Sovereigns of the World" (London, 1795) contain from Eberhard Montmorency, contemporary with Hugh Capet, to Anne, Duke of Montmorency, the great Constable of France (1493–1567), 107 names, covering a period of eighteen generations. During the latter sixteen of these generations, the family held exceedingly high social position, and were lords of Montmorency, Laval, Montfort, etc. There were, among this 107, a considerable number of persons of local influence, constables and marshals of France, but the names of two alone of this large group, the product of eighteen generations, have come down to us as distinguished historical characters.

These are Mathew I, constable, died in 1151, and Mathew II, called "The Great," died 1230. They were grandfather and grandson. The next great Montmorency was Anne[322], Constable of France (1493–1567) (8). "He was a brave but ferocious warrior, was totally illit-

erate, and yet through his natural talent and the experience of a long life, he was an able statesman and counselor." None of the immediate ancestry of Anne appears to have been famous, as the two Mathews are many generations back; therefore, the inherited talents of Anne must be considered a new variation.

Now comes another little region of great names: Anne's second son, Henry I[324], Duke of Montmorency, was a distinguished legislator (8), being the only one of seven mature children to reach high fame; the general average of the "fraternity" shows the reversion to the mean.

Henry II[331], the representative of the next generation, was rather more distinguished than his father. He was the only son to reach maturity. His sister, Charlotte[332], who married Henry II, Prince of Condé, and was the mother of the **Great Conde** (10), has remained famous all these years, but rather for her extreme beauty and strength of character than for purely intellectual qualities. There were two other sisters not distinguished. Henry left no children, so the male line ends here. (See chart, p. 74.)

Not only is this house, as is well known, an instance of heredity, but its closer analysis strengthens even more this view, and the six most famous ones fall in two little groups far removed from each other; and comparing the percentages of genuises with the size of the family, we see that it does not prove too much. The first eighteen generations show a perfectly natural result from the influences of heredity. The last three generations, giving four big names among twelve, are also in line with the expected, since both Anne and his most distinguished son, Henry, had large families, these eminent persons

being a select few out of many. It will be seen later that the great descendants of the Montmorencys, who bore the name of Condé, traced their lineage from the great names among the Montmorencys, not from the mediocre.

Condé.

[335]—[362]

This high wave of Montmorency had probably a great deal to do with making the name of Condé so well known, since its greatest personages were the children of both families. The male line of Condé is traced through the lines of Marche and Vendôme back to Robert, Count of Clermont, Lord of Bourbon (died 1317), the son of Louis IX, Prince of France. From Robert to Louis I, Prince of Condé (died 1569), includes in the direct line forty-four adult names, covers a period of two and a half centuries, and includes nine generations. During the first of these generations not a single one, as Count of Vendôme, Duke of Bourbon, or the possessor of any other high title, ever distinguished himself sufficiently to be even mentioned by "Lippincott's Dictionary." During all this time one also notices no illustrious names on the maternal side, so this is all to be expected.

Now in the ninth generation appears Louis[335], the first distinguished Condé, the eighth of ten mature brothers and sisters. His oldest brother, Anthony of Bourbon[371], King of Navarre, is famous, but ranks far from the great. He was a weak and irresolute prince who died in 1562, "detested by the Protestants whom he had deserted, and little regretted by the Catholics." * The second brother, Charles, was one of the chiefs of the Catholic league, and receives a few lines in "Lippincott." The other children were not heard from.

It does not appear clear where Louis's talents arose, since none of his immediate ancestors were remarkable, nor was his marriage calculated to perpetuate any great-

* Rose, "Biographical Dictionary."

CONDÉ.

(8) (6) Louis I [335].
b. 1530.
Celebrated general.
Impetuous nature.

(8) (6) Henry I [336].
Distinguished leader of the Huguenots.
m. Charlotte de la Trémouille.

Francis [337].
"Obscure."

Charles [338].
"Obscure."

de Soissons [339].
"Obscure."

Eleanor [340].
"Obscure."

(7) (5) Henry II [341].
Ambitious and successful.
m. Charlotte de Montmorency, dau. of Henry I [324]. (Stock contained much genius. See p. 74.)

(10) (4) **Anne** [342].
Duchess of Longueville.
Celebrated for her beauty, tact, and diversified genius.

(10) (4) **Louis II** [343].
The "Great Condé."
Celebrated and brilliant general.
m. Clemence de Maillé de Brezé. (Stock contained genius, degeneracy, and insanity.)

(4) (5) Amand [344].
Prince of Conty.
A weak and insignificant person.

(7) (3) Henry Julius [345].
X Distinguished soldier, but was heartless, avaricious, and became insane.
m. Anne of Palatine. (Stock mediocre or "obscure.")

Therese [346].
"Obscure."
m. [364] Conty.

(5) (5) Louis III [347].
Of little fame.
m. Louise (bizarre and debauched). A nat. dau. of Louis XIV[379] of France. (Stock bad. See p. 114.)

(8) (6) Louise [348].
Duchess of Maine.
Last brilliant Condé.
Celebrated as a patroness of literature and art.

Marie [349].
"Obscure."

(4) (3) Marie [350].
X An abbess.
Considered cruel.

(5) (3) Louise [352].
X Bad in many ways.
m. [366] Conty.

Alaria [354].
"Obscure."

(4) (3) Henrietta [356].
X An abbess.
Considered cruel.

de Clerment [358].
"Obscure."

(3) (2) Louis IV [351].
X b. 1692, d. 1740.
Bad character.
m. Caroline of Hesse-Rheinfels.
(Stock "obscure.")

Anne [353].
"Obscure."

(3) (1) Charles [355].
X de Charolais.
Atrociously cruel and debauched.

Elizabeth [357].
"Obscure."

(7) (8) Louis Joseph [359].
Courageous and noble.
m. Charlotte of Rohan-Soubise.
(Stock "obscure" at this point.)

(5) (4) Louis Henry Joseph [360].
A man of little character.
m. Marie Louise of Orleans [413].
(Stock contained both bad and good characters.)

(7) (8) Louise [361].
A nun.
Strong-minded, energetic, and excellent character in every way.

(6) (7) Louis Anthony Henry [362].
Duke of Enghien.
A brave and noble character.
Executed in 1804.

ness he might have inherited, since his wife, Eleanor, was a daughter of Charles, Count of Ponce, a family of no distinction. He had three sons, one of whom was Henry I[336], Prince of Condé. He was "liberal, gracious, and eloquent, and promised to be as great a captain as his father." * Only three of the eight other children reached maturity. These three held high titles and presumably had equal opportunities, but left no great names behind them. Now, supposing Henry I to have inherited all the talents of his father, and that he was the only one to so inherit them, the next generation would have just as much chance to receive the birthright of Condé as his own generation had. There were but two children, and it is not asking too much from heredity if we believe that one of these two again shows the family strength by the same cause. This one to follow in the footsteps of his father was Henry II[341], of Condé, whose record, however, was not so illustrious as that of some of those who had gone before.

We now come to one of the greatest "fraternities" in point of average to be found in all modern royalty. Here we find two out of three in the highest intellectual rank. **Louis II,** the "Great Condé"[343], and his sister **Anne**[342], Duchess of Longueville, certainly belong in (10). The third was Armand, Prince of Conty, famous, but not praised either for character or intellect. Can we account for these strictly by heredity? If these three children had arrived without any other influence than the house of Condé, it would be evidence against heredity, since before the fourth generation reversion to the mean would be called for; but it certainly is significant to note that

* Brantôme, "Vies des Hommes Illustres."

this most brilliant "fraternity" of all is also backed by about the most brilliant pedigree of all royalty, for Henry II, of Condé, married Charlotte, daughter of Henry I, of Montmorency. She was noted for her beauty, strength of character, and fascinating qualities. Henry I was the center of the Montmorency genius. *Thus the greatest of the Condés occur where we should most expect them*, just at the junction of the two great streams. (See chart, p. 74.)

The subsequent history of Condé is one of decline. Is there any infusion of bad blood sufficient to account for it aside from the external circumstances in which they lived? **Louis II**, the Great Condé, married Clemence, a daughter of Urban de Maillé de Brezé and a niece of Cardinal Richelieu. Maillé de Brezé was Marshal of France, so it would seem at first sight as if here we might expect a perpetuation of genius. But in looking more carefully we get the following idea of the character of the marshal, which throws no optimistic light on the rest of the members of the family. Maillé de Brezé was made Marshal of France in 1632, and left his command in Holland in anger, saying that *il n'etait point bête du compagne.* In 1636 he was given the government of Anjou, where he showed himself "*bizarre* and tyrannical." He gave but little proof of military talent. Lenet said that he was under the possession of a woman (la Dervois), the widow of one of his valets, ugly, but of quick and forceful mind, who governed his entire fortunes up to the last breath of his life. Cardinal de Retz pictured him as extravagant, but sufficiently to the taste of the king for him to permit the marshal's tirades against the greatest personages of the court.* So much for the father; the mother, Nicole,

* Biog. Univers.

was insane, and the daughter, Clemence, was a woman "*énergique vaillante et même cruelle.**

The great Condé had but one child. If he had been the father of several, we might expect some to have been very brilliant and perhaps escape the taint. This one son was Henry Julius. Eight lines are devoted to him in "Lippincott's," and read as follows:

"Condé de (Henri Jules de Bourbon), Prince, the only son of the Great Condé, was born in 1643. He distinguished himself at the siege of Tournay in 1665, and in 1674 took part in the battle of Seneffe, where he is said to have saved his father's life. Saint-Simon gives a very just but most unfavorable view of his character. Towards the end of his life he became insane, and fancied himself a dead man. Died in 1709."

Brilliancy, bad character, and congenital insanity were then united with mediocrity, since the mother of the next generation was from an undistinguished branch of the Palatine house, and the mother's family, Nevers, is also "obscure" at this point.

Of the four adult children of Henry Julius, Anne Louise, Duchess of Maine, alone has left a fame that has come down to us.

"She had more than an ordinary share of the pride of birth by which that branch of the Bourbons was distinguished. She was highly educated and a great patroness of literature and art. Most of her life was spent in her beautiful mansion at Sceaux, surrounded by men most eminent for genius and learning. It was she who first patronized the muse of Voltaire." †

* Jacoby, "Études sur la Selection," p. 414.

† Taylor, "Memoirs of Orleans," i, p. 211.

The intellectual qualities being the fact most interesting to trace in the family of Condé, nothing further need be said save that the remaining members showed no marked genius. The nine in the next generation exhibited two instances of *extreme cruelty*. These were Louis IV[351], Prince of Condé, and his brother Charles, Count of Charolais[355].

"Bad as the Duke of Bourbon was, his brother, the Count of Charolais, was infinitely worse. He excited public execration by acts of such ferocious atrocity that they seem to belong to the worst tyrants of antiquity. Like all the nobles who had been educated under the regency, he had abandoned himself to the wildest and most profligate debauchery, which, however, did not satisfy him unless it was accompanied by the most savage cruelty. He murdered one of his servants whose wife, fondly attached to her husband, refused to receive his addresses. He fired at the slaters employed on the tops of houses, and when he brought down one of his human game he hastened to gratify himself by watching his last agonies." *

We notice that the writer refers to his having been educated like the other youths of the day, in the debauching school of the regency, but does not make mention of the fact that he was a grandson of the mad Henry Julius.

"The sisters of this delectable family were hardly better than the brothers. Two of them were abbesses of monasteries, very rigid and ostentatious in their devotional exercises, but cruel tyrants over the unfortunate nuns, subject to their sway. Both exercised the most

* Taylor, i, p. 383.

perverse ingenuity in discovering means of torturing these poor victims of the cloister." *

The remaining generations had but one, two, and one offspring respectively. As Louis IV[351], Prince of Condé, was of little account, and the remaining pedigrees contain Hesse, Rheinfels, Soubise, and Orleans without bringing intellectual distinction, as far as I know, there appears to be nothing against heredity in the closing chapter of the house. In fact, the psycho-neurosis appears to have been eliminated through the principle of regression, and we find the last members of the family rather fine heroic types, though not, like their Condé ancestors, capable of grappling with difficult conditions. The last of the line, Louis Anthony Henry, Duke of Enghien, was executed in March, 1804, an act that is commonly regarded as one of the worst stains on the character of Napoleon.

The chief lesson to be drawn from the house of Condé is that there is no degeneration which cannot be perfectly explained by inheritance. A glance back at the chart shows that the violent and depraved characters numbered [345], [350], [351], [352], [355], [356], occur immediately after the introduction of similar stock on the maternal side. It was not a gradual and general decline, such as we might expect if environment has the influence claimed for it by some. This may be easily seen on viewing the last three generations in the chart (p. 102), where we see excellent characters in the proportion of three in four.

In the following chart we see the descendants of the insignificant Amand, younger brother of the **Great Condé.**

* Taylor, *op. cit.*

Conty, younger branch of Condé [363]—[370].

(4) (5) Amand of Conty [344], son of Henry II, Condé [341]. A weak and insignificant person. m. (6) (10) Anne Marie, niece of Cardinal Mazarin.

- Louis Amand I [363]. Led a disorderly life and died young.
- (8) (9) Francis Louis [364]. Brilliant gifts and noble character. Elected King of Poland. m. [346] Condé.
  - Maria Anne [365]. "Obscure." m. [351] Condé.
  - Louis Amand [366]. "Did not inherit the brilliant qualities of his father." * m. (5) (3) Louise [352] Condé. X (Bad stock).
    - (7) (7) Francis I [368], 1717–1776. Cruel and debauched when young. Reformed and became an excellent prince.
    - (5) (3) Louise Henrietta [369]. X Licentious. m. Louis Philippe [411]. (1725–1785).
  - Louise [367]. "Obscure."

He married a niece of Cardinal Mazarin, the celebrated leader of French politics during the minority of Louis XIV. Such a union of talents might be expected to produce something extraordinary, at least in a large number of children. Both sons were brilliant and differed much in moral character. The elder[363] died too young to be of much interest. The younger[364] was an ideal prince, and is the last example in the branch to represent the old Montmorency-Condé genius.

There is just one unexpected happening in this group, and that is that none of the children in the next generation were as remarkable as we should expect from the intermarriage with Therese[346], of Condé. It might have been that all three resembled their mother.

The remaining members of the family are expected enough, and without interest except in explaining the bad qualities of Louise Henrietta[369], who became the beauti-

* Le Bas, "Dict. Encyclopédique."

ful and notorious Duchess of Orleans, mother of the debauched Egalité.

The grades for Montmorency, Condé, and Conty are based on all the combined and averaged opinions of the following: Rose's Biographical Dict.; Biog. Univers.; Lippincott's; Taylor, "Memoirs of Orleans "; J. Cretineau-Joly, "Trois dern. princes Condé "; "Memoires de Henri duc de Montmorency "; Guizot, " Hist. of France "; and Ency. Britannica. *See Appendix.*

CHAPTER IX

France

A. Bourbons in France.

[371—400]

Descended from an ancestor in common with Condé and Conty, the house of Bourbon may properly be considered next. From Anthony, King of Navarre[371], to the daughter of Louis XVI, there elapses a period of ten generations with thirty names. The son of the first of this group became **Henry IV,** of France, the founder of the Bourbon dynasty, the hero of his age, and the only great name among them all. **Henry IV** earned for himself the title of "le Grand," and in spite of his many weaknesses and vices, his brilliancy, eloquence, and practical genius doubtless entitle him to this epithet. "His memory is cherished by the French, more than that of any other of their kings, and his character is regarded by them as the beau-ideal of a Frenchman, a warrior, a monarch, and statesman." *

Although his father, the King of Navarre, was in no way a man from whom we might expect such a son, **Henry the Great** came naturally by his brilliant qualities, and is the center of a little group of very gifted royalty, as the following diagram shows. The names in bold type are in grades (9) or (10).

* Lippincott's "Biographical Dict."

HENRY IV [372].

PHILIP [380],
Son of Louis XIII.

LOUIS XIII [374].

ANNE OF AUSTRIA [527],
Queen of Louis XIII.

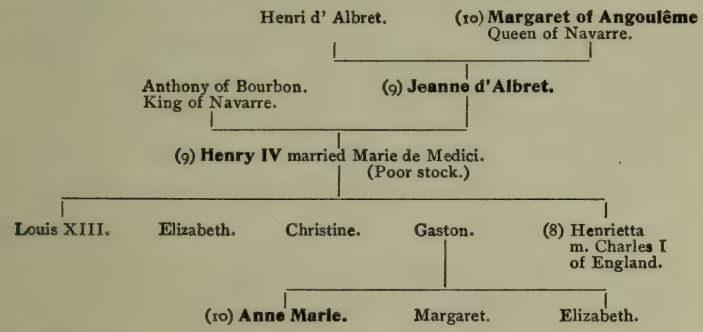
LOUIS XIV [379].

MARIA THERESA [533].
Queen of Louis XIV of France.

LOUIS, DUKE OF BURGUNDY [385].
Father of Louis XV.

LOUIS, DAUPHIN [381].
Son of Louis XIV.

This group is especially interesting, because it illustrates what is so often the result, when a strain that contains some remarkable peculiarity is united with one that does not. Among the five children of **Henry IV,** Henrietta seems to have had the brains and spirit, while Louis XIII and Gaston were unusually weak and degenerate. In the next generation, **Anne Marie** amply represented the genius of her grandfather. She was Duchess of Montpensier — generally known as "Mademoiselle" — and belongs among the three or four famous women military leaders. There certainly have been few of her sex gifted



in this particular direction. The spirit and daring of "Mademoiselle" were indeed remarkable, especially at the capture of the town of Orleans, where she rendered important service. It is interesting to find this extraordinary woman, the last of a brilliant group of geniuses, showing in full force the exceptional qualities of her forebears. I have said the last, but it is doubtful if she were the very last of this strain. A great-grandson of **Henry IV** — who became notorious for his vices as well as famed for his mental endowments — the regent Philip of Orleans, might have been a reversion, in part to this

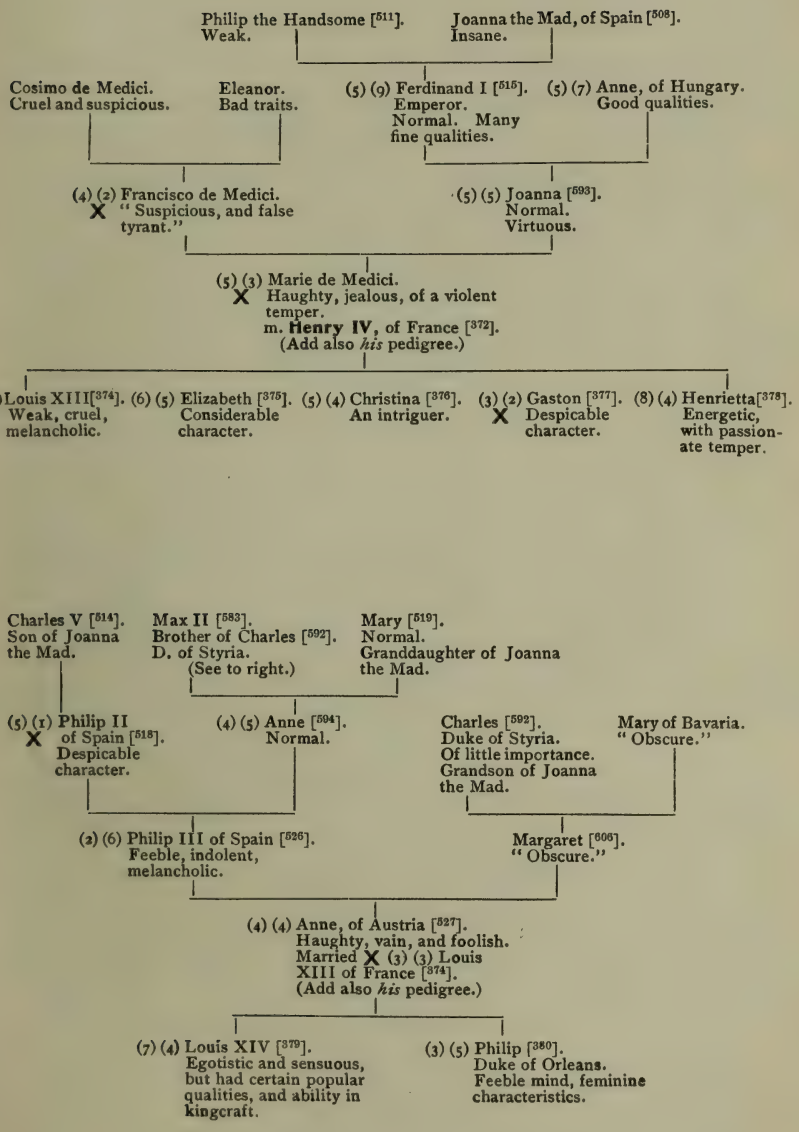
group, as well as to the Palatine genius of his mother's family.

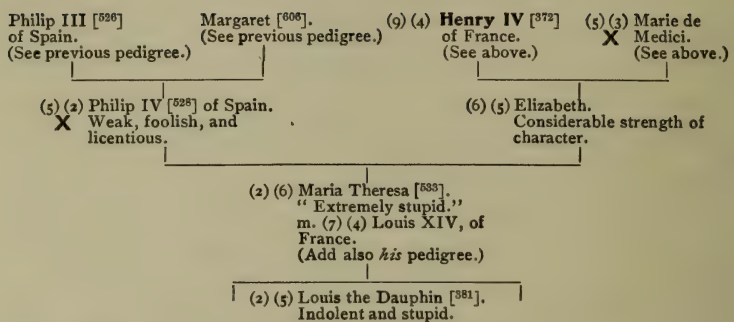
Louis XIII was a nonentity, as is well known. His son, Louis XIV, "le Grand," so-called, possessed a certain will power and a personality which enabled him to star so successfully in his part of playing the king, but never again did an exceptional Bourbon appear. Glancing at the chart opposite p. 154, where the degeneracy of the Spanish Bourbons is shown, one can see how from Philip V[386] onward, the French royal family was almost continually in-bred with the great group of neuroses belonging originally to the Spanish house, which afterwards became its own unfortunate birthright. The following is an analysis of the Bourbon marriages in France. They were all, with one exception, unwise, mediocre, or decidedly bad.

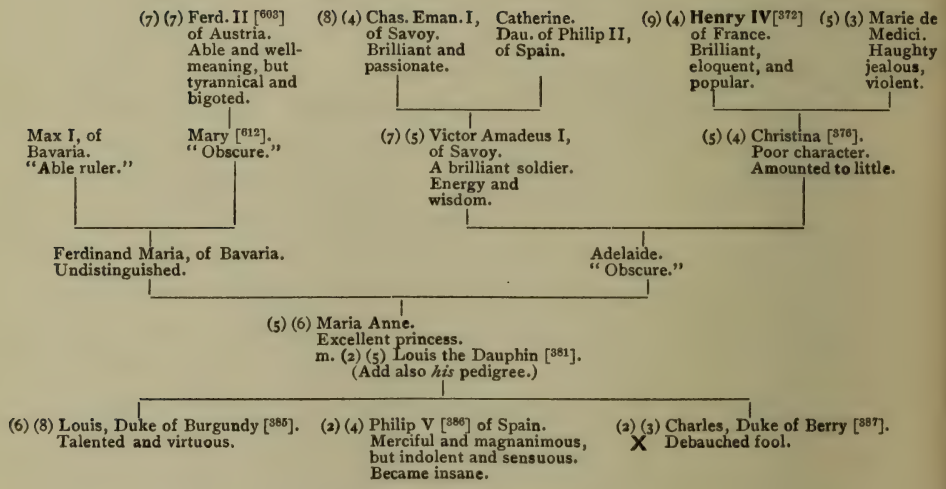
Henry IV married Marie de Medici, a passionate, tyrannical, and not especially gifted woman. She was the daughter of Francisco de Medici, "a suspicious and false tyrant." Her mother, Joanna, "obscure," was a granddaughter of Joanna the Mad, of Spain, and Philip the Handsome, a nonentity. There was in the stock, it is true, a grain of genius; nevertheless, this marriage must be considered unquestionably bad for the Bourbon future.

Louis XIII[374] married Anne, of Austria, in-bred from the same Bourbon-Hapsburg stock. She was from the worst section of the Spanish house, and one can find little to be desired in her or her ancestors. The blood of Joanna the Mad is many times in her pedigree.

Louis XIV married Maria Theresa, belonging to the same stock. She was a daughter of Philip IV, of Spain, consequently a granddaughter of the same Philip III. Her mother was a sister of Louis XIII. The wife of


Philip the Handsome [511]. Weak.
Joanna the Mad, of Spain [508]. Insane.
Cosimo de Medici. Cruel and suspicious.
Eleanor. Bad traits.
(5) (9) Ferdinand I [515]. Emperor. Normal. Many fine qualities.
(5) (7) Anne, of Hungary. Good qualities.
(4) (2) Francisco de Medici. X "Suspicious, and false tyrant."
(5) (5) Joanna [593]. Normal. Virtuous.
(5) (3) Marie de Medici. X Haughty, jealous, of a violent temper. m. Henry IV, of France [372]. (Add also his pedigree.)
(3) (3) Louis XIII [374]. X Weak, cruel, melancholic.
(6) (5) Elizabeth [375]. Considerable character.
(5) (4) Christina [376]. An intriguer.
(3) (2) Gaston [377]. X Despicable character.
(8) (4) Henrietta [378]. Energetic, with passionate temper.
Charles V [514]. Son of Joanna the Mad.
Max II [583]. Brother of Charles [592]. D. of Styria. (See to right.)
Mary [519]. Normal. Granddaughter of Joanna the Mad.
(5) (1) Philip II of Spain [518]. X Despicable character.
(4) (5) Anne [594]. Normal.
Charles [592]. Duke of Styria. Of little importance. Grandson of Joanna the Mad.
Mary of Bavaria. "Obscure."
(2) (6) Philip III of Spain [526]. Feeble, indolent, melancholic.
Margaret [606]. "Obscure."
(4) (4) Anne, of Austria [527]. Haughty, vain, and foolish. Married X (3) (3) Louis XIII of France [374]. (Add also his pedigree.)
(7) (4) Louis XIV [379]. Egotistic and sensuous, but had certain popular qualities, and ability in kingcraft.
(3) (5) Philip [380]. Duke of Orleans. Feeble mind, feminine characteristics.


Philip III [526] of Spain. (See previous pedigree.)
Margaret [606]. (See previous pedigree.)
(9) (4) Henry IV [372] of France. (See above.)
(5) (3) Marie de Medici. (See above.)
X
(5) (2) Philip IV [528] of Spain. Weak, foolish, and licentious.
X
(6) (5) Elizabeth. Considerable strength of character.
(2) (6) Maria Theresa [533]. "Extremely stupid." m. (7) (4) Louis XIV, of France. (Add also his pedigree.)
(2) (5) Louis the Dauphin [381]. Indolent and stupid.


(7) (7) Ferd. II [603] of Austria. Able and well-meaning, but tyrannical and bigoted.
(8) (4) Chas. Eman. I, of Savoy. Brilliant and passionate.
Catherine. Dau. of Philip II, of Spain.
(9) (4) Henry IV [372] of France. Brilliant, eloquent, and popular.
(5) (3) Marie de Medici. Haughty jealous, violent.
Max I, of Bavaria. "Able ruler."
Mary [612]. "Obscure."
(7) (5) Victor Amadeus I, of Savoy. A brilliant soldier. Energy and wisdom.
(5) (4) Christina [376]. Poor character. Amounted to little.
Ferdinand Maria, of Bavaria. Undistinguished.
Adelaide. "Obscure."
(5) (6) Maria Anne. Excellent princess. m. (2) (5) Louis the Dauphin [381]. (Add also his pedigree.)
(6) (8) Louis, Duke of Burgundy [385]. Talented and virtuous.
(2) (4) Philip V [386] of Spain. Merciful and magnanimous, but indolent and sensuous. Became insane.
(2) (3) Charles, Duke of Berry [387]. Debauched fool.
X

Louis XIV was, therefore, much more closely related to him than a first cousin.

Louis[381] the Dauphin, the only legitimate child of Louis XIV who reached maturity, resembled his mother. His marriage with Maria Anne, of Bavaria, may be considered at least better than the alliances of his forefathers. However, it was not more than mediocre except in the background.

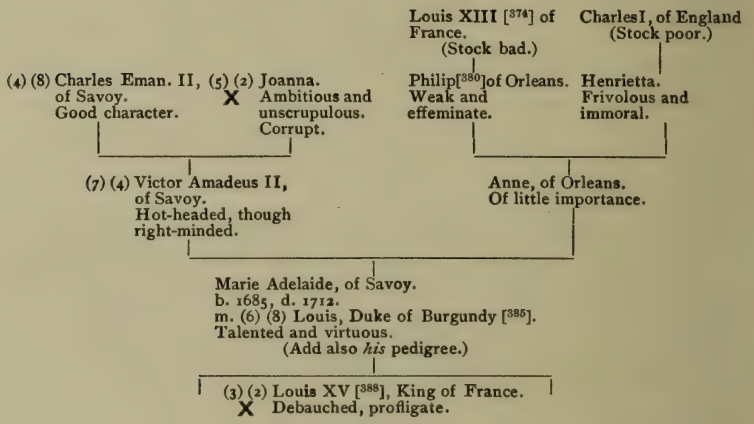
The children in the above generation have now, through inter-marriages, the neurotic strain no less than eleven times in their pedigree. It would seem that Philip V, of Spain[386], was a reversion on this ancestral type. After the bloody wars of the Spanish succession, the grandson of Louis XIV came upon the throne of Spain, and, as the stem from which so many latter-day Bourbons sprang, became an exceedingly important factor in the biology of royalty. In him the ancient psychoneurosis got a fresh start, to be handed on, like the Hapsburg "lip," as a family inheritance, to many of the unfortunate members of the royal houses of Spain, Austria, and Italy.

Louis, Duke of Burgundy[385], whose elder son became the next king of France, was himself free from the taint; still, his marriage tended as far as possible to maintain the same stock. The pedigree now formed is not as bad as might be, and, if more children had been born, doubtless some might at least have been better specimens than Louis XV. The characteristics of his mother's family are here given (p. 116).

Louis XV cannot be considered an instance of expected inheritance, at least as far as moral characteristics are concerned. His marriage with Marie Leszinski must

have been beneficial to the Bourbon virtues. The table (p. 117) would indicate as much. This may be contrasted with the Bourbons in Spain, the descendants of Philip V[386] (p. 154).

It will be seen that the pedigree of these six children was good, except that we find Louis XV and his uncles. Only one of them fell as low as (3) in the scale of virtues. There has been an attempt in some quarters to throw a most unfavorable light on the morality of several of the



daughters of Louis XV. *Epileptique*, *bizarre*, *violente*, *incestueuse*, *altière*, *cruelle*, are some of the adjectives applied to Madame Adelaide, by M. Paul Jacoby in his book, "Études sur la Sélection," a work which professes to be scientific, but which strikes one as being more like the tirade of an ultra-democrat against the governing classes in general. Jacoby has apparently dwelt upon all the worst characters, ignored normal and excellent ones, and, moreover, follows Michelet, whose later writings are well known to have this same failing and to be, in general,

(6) (?) Raphael Leszinski.
Distinguished by his personal qualities.*

(6) (7) Stanislaus Leszinski.
Accomplished and popular.
Good character.
Very scholarly, but weak as a statesman.*

Catharine Opalinska.
"Obscure."

(4) (6) Marie Leszinski.
Cold temperament.
Dull and pious.
married
(3) (2) Louis XV [388].
X Debauched profligate.
(Add also *his* pedigree.)

(5) (3) Elizabeth [389].
X Ambitious intriguer.
Of questionable morality.

(5)(6) Louis [390].
The weak and indolent but virtuous dauphin.

(4) (5) Adelaide [391].
Religious and something of an intriguer.

(5) (6) Victoria [392].
"Passed most of her life at court, and was respected for her piety and purity." †

Sophie [393].
Character normal.

Louise [394].
A nun.
Excellent virtues.

7) (3) Augustus the Strong.
X Talented, licentious, prodigal.

Eberdine, of Brandenburg.
Not important.

(8) (9) Joseph I, of Austria [619].
Intellectual, amiable, tolerant.

Amelia, of Brunswick.
"Obscure."

(4) (7) Frederick Augustus II, of Saxony.
Mediocre, but good character.

(4) (6) Marie Josepha.
Good, mediocre princess.

(5) (6) Josepha of Saxony.
Mediocre, amiable, and virtuous.
married
(5) (6) Louis, the Dauphin [390].
Indolent, but virtuous.
(Add also *his* pedigree.)

(5) (8) Louis XVI [395].
Intelligent and well-intentioned, but weak.
Studious tastes.

(7)(5) Louis XVIII [396].
Excellent king.
Studious tastes.

(3) (5) Charles X [397].
Obstinate and bigoted.
Not studious in his tastes.

(5) (9) Adelaide [398].
A beautiful character.
Devoted to religion and charities.

(7) (9) Elizabeth [399].
A heroine.
Her nature was especially devoted and noble.
Studious tastes

* Ency. Brit., 9th ed.

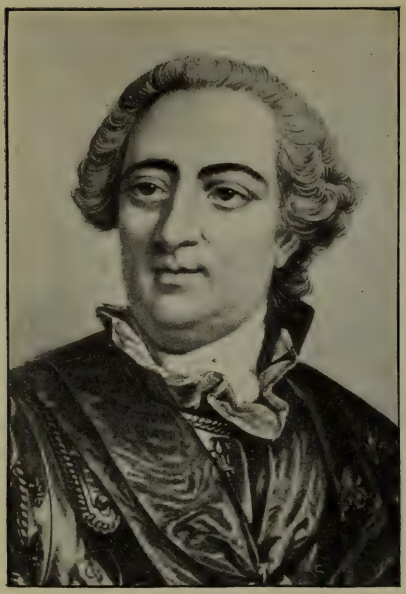
† Biog. Univers.

unreliable. Such difficulties arising from extreme differences of opinion on the part of the authorities are rarely met with. In this case, it is much better to follow the conservative view, and consider only the eldest daughter of Louis XV as having a nature essentially bad. Even she should not go in the worst grades. We all remember accounts of the excellent virtues and good intentions of Louis XVI, and the heroism of his sister Elizabeth, during the ordeal of the Revolution, and, in fact, the general tone of the later Bourbons of France was far from bad. Indeed, they were not characteristically Bourbon. It was the other branches of the house, especially in Spain and Italy, that made the name a synonym for tyranny, bigotry, and licentiousness. Here in France, we have already seen one "outside marriage" with excellent stock. The last given here is that of Louis the Dauphin[390], (p. 117), where the maternal stock may be seen to be good, though mediocre.

Summary of the Bourbons, Psychological Aspects *

Reviewing the characteristics of the Bourbons in France, we find two main facts to be accounted for: First, the high talent centering around **Henry IV;** and second, the degeneracy seen in so many members of the family. The first is perfectly accounted for by heredity, Henry receiving his genius from his mother and grandmother, and transmitting it to one daughter and one granddaughter. The reader must remember how rare the (9) and (10) grades are, yet here together are four of these elect, and also one in (8). The others about them are mediocre

* Physiognomy discussed under Hapsburgs in Austria.



LOUIS XV [388].

STANISLAUS LESZINSKI, KING OF POLAND,
b. 1677, d. 1766. Father-in-law of Louis XV.

ELIZABETH LOUISE, DUCHESS OF PARMA [389]
Daughter of Louis XV.

LOUIS, DAUPHIN [390]
Son of Louis XV.

LOUIS XVI [395].

CHARLES X [397].

MARIE THERESA [400],
Daughter of Louis XVI.

LOUIS XVIII [396].

or lower still. Stirring events and opportunities came also to them. Why did they fall short? The answer is that *these* "took after" the mediocre and not the gifted ancestors.

The same is true of the second fact, the moral conditions. Although the French Bourbons have left a bad name, if we analyze them as carefully as possible, and take the whole thirty into consideration, we find only five in a grade as low as (3). It is true that some were particularly odious, and we do not find many altruists among them; but, taking them as a whole, they were not the worst of royal lords and dames.

The pedigrees show that these exceptionally depraved five are well accounted for, and what is more striking, is that closely associated with them, are many in the middle or higher grades — a fact more readily explained by heredity than surroundings. The variations in the progeny are here, as elsewhere, reduplicated by variations in the ancestry.

B. Bourbon, Branch of Orleans

[401] — [423]

The younger branch of the house of Bourbon, called to the throne in the year 1830, is descended from Philip of Orleans, a younger brother of Louis XIV.

The son of this Philip became regent of France during the minority of Louis XV, and is a well-known historical character for his eccentricities, his vices, and his brilliancy.

The pedigree of this man of such exaggerated traits is not out of keeping with the man himself. He had the Bourbon eccentricities on his father's side, on his mother's

the brilliancy of the house of Palatine, *e.g.*, **Sophia, Elizabeth,** and Rupert, the famous cavalier.

We find abnormalities of some kind in five of the six children of the Regent. Three of the daughters were extremely dissolute. One was sweet-tempered and normal. This might be explained by the circumstances by which they were surrounded, the youngest daughter having been under better influences ; or might be merely the variations in the pedigree, Philippine being the only child to resemble her mother.

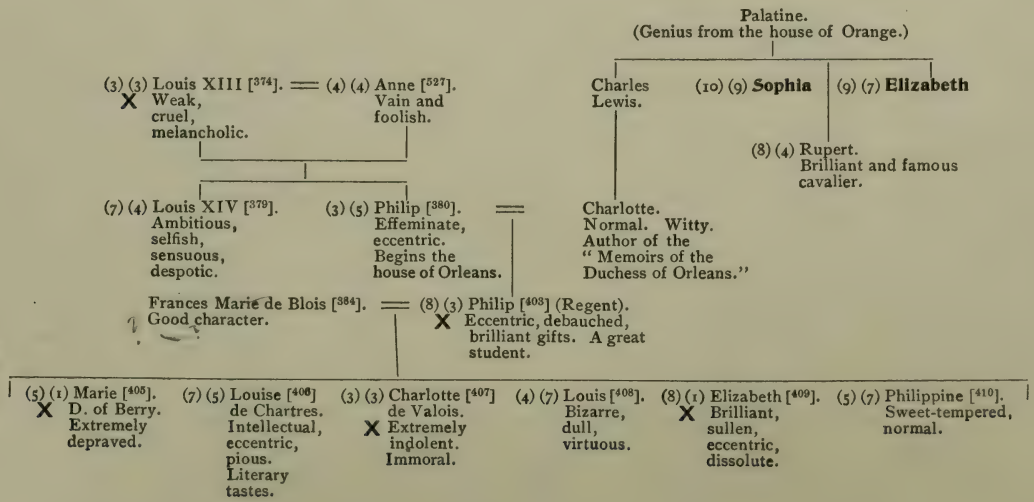
The remaining generations contain little other than mediocrity, which is to be expected from a study of the pedigrees. Louis[408], the only son, married a princess of Baden of undistinguished stock. His only son, Louis Philippe[411], a mediocrity (4) (4), married Louise Henrietta[396], a daughter of Louis Amand II, of Conty. She was a woman of no especial gifts, and very bad morals. (Her character is accounted for in the section Conty, the house of her birth.)

Their only son, Louis Philippe, who is generally known as "Égalité," was a weak and debauched specimen. His marriage, however, may be considered fairly good, in so far as it introduced an excellent mother and grandfather.

The characteristics of the other members of the family are to be seen on p. 122.

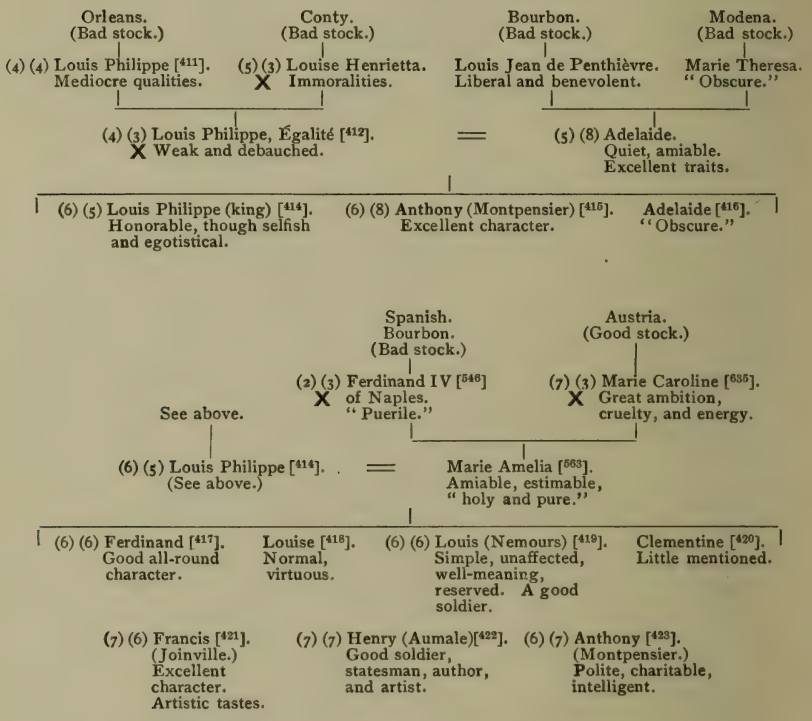
It is to be noticed that the last two generations in the family of Orleans are uniformly good, even though this is not to be expected from the influences of heredity as we have seen them act in other instances. The education of these princes was exceptional, and it may be due to this that all turned out so well. The bad stock on the maternal side, that produced so many degenerates in the

Orleans


Palatine.
(Genius from the house of Orange.)
(3) (3) Louis XIII [374]. X Weak, cruel, melancholic.
(4) (4) Anne [527]. Vain and foolish.
Charles Lewis.
(10) (9) Sophia
(9) (7) Elizabeth
(8) (4) Rupert. Brilliant and famous cavalier.
(7) (4) Louis XIV [379]. Ambitious, selfish, sensuous, despotic.
(3) (5) Philip [380]. Effeminate, eccentric. Begins the house of Orleans.
Charlotte. Normal. Witty. Author of the "Memoirs of the Duchess of Orleans."
Frances Marie de Blois [384]. Good character.
(8) (3) Philip [403] (Regent). X Eccentric, debauched, brilliant gifts. A great student.
(5) (1) Marie [405]. X D. of Berry. Extremely depraved.
(7) (5) Louise [406] de Chartres. Intellectual, eccentric, pious. Literary tastes.
(3) (3) Charlotte [407] de Valois. X Extremely indolent. Immoral.
(4) (7) Louis [408]. Bizarre, dull, virtuous.
(8) (1) Elizabeth [409]. X Brilliant, sullen, eccentric, dissolute.
(5) (7) Philippine [410]. Sweet-tempered, normal.

history of Spain, here seems to have been without effect. One or two of the children of King Louis Philippe might have been expected to show a reversion, but none did.

The house of Orleans gives us, then, almost everything to be expected, as far as mental inheritance is concerned.


Orleans. (Bad stock.)
Conty. (Bad stock.)
Bourbon. (Bad stock.)
Modena. (Bad stock.)
(4) (4) Louis Philippe [411]. Mediocre qualities.
(5) (3) Louise Henrietta. X Immoralities.
Louis Jean de Penthièvre. Liberal and benevolent.
Marie Theresa. "Obscure."
(4) (3) Louis Philippe, Égalité [412]. X Weak and debauched.
=
(5) (8) Adelaide. Quiet, amiable. Excellent traits.
(6) (5) Louis Philippe (king) [414]. Honorable, though selfish and egotistical.
(6) (8) Anthony (Montpensier) [415]. Excellent character.
Adelaide [416]. "Obscure."
Spanish. Bourbon. (Bad stock.)
Austria. (Good stock.)
(2) (3) Ferdinand IV [546] X of Naples. "Puerile."
(7) (3) Marie Caroline [635]. X Great ambition, cruelty, and energy.
See above.
(6) (5) Louis Philippe [414]. (See above.)
=
Marie Amelia [563]. Amiable, estimable, "holy and pure."
(6) (6) Ferdinand [417]. Good all-round character.
Louise [418]. Normal, virtuous.
(6) (6) Louis (Nemours) [419]. Simple, unaffected, well-meaning, reserved. A good soldier.
Clementine [420]. Little mentioned.
(7) (6) Francis [421]. (Joinville.) Excellent character. Artistic tastes.
(7) (7) Henry (Aumale)[422]. Good soldier, statesman, author, and artist.
(6) (7) Anthony [423]. (Montpensier.) Polite, charitable, intelligent.

All except the Regent and two of his daughters are close to mediocrity. The Regent may be considered an offshoot from the brilliant Palatine house, otherwise no genius was introduced into the male line. Although the twenty-three give us no exceptions from the intellectual standpoint, we must count at least three as unexpected

with regard to moral character, and we have in those few instances, what we seldom find, an argument for the advantages of surroundings, and for nothing else.

The grades for Bourbon and Orleans are based on all the combined and averaged opinions of the following: Biographie Universelle; Rose's Biog. Dictionary; Neau. Biog. Gen.; Lippincott's ; de Belgiojoso, " Hist. de Savoie "; Gallenga; St. Simon, see index; Taylor, "Mems. of Orlean " ; Ed. Barthélemy, "Mesdames de France," and "Les filles du Regent"; Precis. Hist. d'Orléans; C. Yriarte, " Les Princes d'Orléans "; Kitchen's " History of France "; Guizot, " Hist. of France "; Martin, " Hist. de France " ; Abbot's " Louis XIV " ; Ency. Britannica; F. Rothschild. *See Appendix.*

CHAPTER X

Spain

(*a*) *Old Castile, Aragon, and Leon*

[424]—[509]

The early history of this ancient family is coincident with the history of the rise of Spain's eminence as a nation. Whatever value other factors may have had in producing Spain's glory, the presence of the long line of great rulers and warriors must have been one of the most important. This influence of the great leaders could make itself felt then, even more than now. Within recent years we have had an example in Lord Roberts, of what genius for generalship can accomplish in the turn of events. How much greater impress on his times the great man must have made in those mediæval days when the masses knew almost nothing!

I know of no other direct line, except the then reigning one in Portugal, where greatness was maintained for so long a period, nor has there appeared any other than these two dynasties, where vigorous and distinguished blood was so continuously introduced into the stock. Portugal was five times united with the best of the stock of Spain, to its evident advantage. Spain took wives three times from Portugal. Two of these, the marriage of Ferdinand II, of Leon (d. 1187), and Ferdinand IV (d. 1317), were of great benefit. The third was valuable

as far as the introduction of Portugal's blood was concerned, but happened to be very unwise, because it brought back again in a double way the cruel traits of Sancho IV, which resulted in producing Peter the Cruel, whose tyrannies amounted almost to madness.

There are a few exceptions among the noble characters, such as the cruel tyrants just referred to, whose traits will be seen to be evidently caused by heredity. Still, for *twenty-one* generations in the direct male line of Castile, from Sancho II in the tenth century to Charles V, the greatest ruler of his time (d. 1558), there were only five who did not possess a high degree of strength and ability. These were Alfonso IX, Ferdinand IV, John I, John II, and Henry IV, of Castile.

The three last mentioned were the only decidedly weak kings, and were closely related. The causes of this temporary running out and subsequent rejuvenation in Ferdinand and Isabella will be discussed later.

During the early centuries of Christian Spain, the conditions of the times were such that every sovereign was obliged to defend his right to the throne against the jealousies of his family, so that almost constant wars were being waged among the nearest kin, and it was practically impossible that several generations of weak and incompetent kings should not have been wrested from the throne. This factor of natural selection undoubtedly did much to insure the strength of the stock.

The long minorities of the sovereigns of Castile and Aragon which occurred time and again during these centuries, have always been considered by all historians as one of her greatest misfortunes, leading to intrigues, civil wars, and disasters; affairs being put in a healthy

condition again only when the king himself was old enough to take things in his own hands.

This and the fact that the country invariably gained ground under good rulers, and just as certainly lost under weak ones, make it evident how much more important the king was in those days and under those conditions than he has been during recent centuries in England, for instance, where the progress has been due to the people as a whole, especially her aristocracy and upper classes.*

Such a long line of great rulers as this, such an almost unbroken repetition of great physical and mental strength, is almost unparalleled, save by Portugal, in all history. If there is much in heredity, it must certainly be necessary here to show that the dynasty was continually maintained by the introduction of just such great qualities, either from the best part of its own stock or from outside families.

We can discuss twenty marriages in the direct line. The following fourteen can be seen to have introduced stock equally vigorous and able. These fourteen are those of Sancho II, Ferdinand I, of Leon, Alfonso VI, Ferdinand II, Alfonso IX, Ferdinand III, Alfonso X, Ferdinand IV, Alfonso II, Henry III, Don John, John II, of Aragon, Ferdinand and Isabella, Joanna the Mad. These were scattered along the course, and sufficiently account for the perpetuation of the strain. Many of these unions were remarkably good, being well backed on all sides. Of the other six, four were "obscure," tending that much to dilute the distinguished qualities.

* *Conf.* Havelock Ellis, "Study of British Genius," *Popular Science Monthly*, Feb.–Sept., 1901. (Geniuses have come from the upper classes.)

There was one, the marriage of Alfonso VI[437], that was distinctly bad, as its average value was incapable as well as vicious. The remaining one introduced mostly poor stock, but had a small element of value in it. I refer to the marriage of John I, of Castile. Half the pedigree of Henry II, of Transtamara, and of Alfonso VI, are uncertain for different reasons, as will appear. Beginning now with the most ancient times, let us take up the character of each sovereign and discuss the effect on the breed, of the blood introduced in the marriage of each.

Sancho I, by his courage and mental and physical energy, extended his dominion in all directions. He reduced important fortresses on both banks of the Ebro, recovered Rioja, and conquered the country from Tudela to Najera, Tarragona and Agreda, and the mountain districts surrounding the sources of the Duero. He was also prudent and pious by nature, and his conquests were retained throughout his life by the wisdom of his acts. He died in 994. Sancho married Urraca, daughter of Ferdinand, belonging to the same stock. They had a son, Garcia, called "the Trembler," about whom little is known with certainty except that he won battles, and apparently he was a successful warrior. The name of "Trembler" was applied to him because before battle, as he himself put it, "My body trembles before the danger to which my courage is about to expose it." The pedigreee of his wife, Ximenia, is unknown to me, but from this time on to the present, the descent of the female side can be traced with very satisfactory completeness; and it is these pedigrees which show that qualities were infused in the stock all the way down the line, sufficient

to keep up the elements of greatness which never ran out in Spain until the death of the Emperor Charles, 1558. After this the worst possible unions were made, and then Spain fell.

Sancho II, who died in 1035, was the son of the "Trembler." He must have had great ability for war and government, as he made himself the most powerful prince of his age and country. He married Nunnia, the heiress of Castile, who belonged to a powerful family. He held what he got by inheritance and marriage, and even extended his dominions by conquest. He was called "el Mayor," or "the Great."

Sancho II was followed by his son, Ferdinand I. He had high abilities and virtues, and made himself the most powerful among many monarchs in Spain. He also is called in history "the Great." He married a daughter of Alfonso V, of Leon, a successful soldier and ruler, and the son of the valiant Bermudo II, who had won distinction by defeating the Moors.

Ferdinand died in 1065. His son, Alfonso VI, was a great warrior, and called "the Valiant." Alfonso VI allied himself to an outside stock. He married a daughter of Robert, Duke of Burgundy. It does not appear that her ancestors were especially distinguished, except that her great-grandfather was Hugh Capet. This cannot be classed among the brilliant matches from the present point of view, as the great qualities were so remote.

Their daughter, Urraca, became queen. She was overbearing and tyrannical in her conduct, with morals of very questionable repute, and her mind was of a light and trivial order, though her ambition was as great as it was unprincipled. "She left to posterity a character

darkened by many crimes and scarcely redeemed by a single virtue." Her reign, 1109–1126, was, fortunately for her people, short, though she succeeded in keeping the country embroiled in family feuds. Urraca is the first met with in this group who had any such traits. On searching for the character of her mother's people, who must have introduced these qualities if they came by heredity, I found her amply accounted for in her grandfather and *his* mother. Robert, Duke of Burgundy, her grandfather, is described in a short column in "La Biographie Universelle," most of which tells of his violent temper. His mother, Constance, was a "wicked intriguer," and instigated his revolting from his weak and peace-loving father, King Robert, of France. "Robert (the Duke) had a most violent temper, and was capable in the excesses of his anger of the most atrocious extremes." He showed no application to affairs of state, and abandoned the government to cruel and incompetent ministers. Queen Urraca married Raymond, Count of Burgundy. He was not at all distinguished, nor were his family.

The successor of the notorious Queen Urraca was Alfonso VII, who luckily did not repeat his mother's character. Unfortunately for our purpose we cannot be sure who was his father, owing to the licentiousness of the queen. The characteristics of this son and his effect on the country may be well shown by quoting Dunham, "History of Spain and Portugal," ii, 165:

"Alfonso was no common monarch. Though he lost Portugal and was unable to withstand the genius of his namesake of Aragon, whom he imitated in assuming the imperial title, yet with fewer pretensions, though he is

undeserving the exaggerated praises of the national historians, it cannot be denied that he exhibited great firmness in circumstances often very difficult, that he caused his territory to be respected by his Christian neighbors and greatly aggrandized it at the expense of the Mohammedans. His talents, however, were inferior to his ambition, and his moderation to both."

If this Alfonso VII had wedded only average qualities, it is probable that the ancient greatness of the race would have run out, but what happened is unusual in the story of families. Just at the time when it is weakened by dilution, it is again strengthened by the qualities of a great man. The wife of Alfonso was the daughter of Raymond Berenguer III (d. 1131), Count of Provence, a prudent sovereign who extended his dominions by inheritance, marriage, and victory in battle, ruled fifty years, and actually carried his conquests across the sea to the shores of Majorica and made successful wars against the Moslems.

The product of this union was Ferdinand II (1187), of Leon. He was a very able general, and had many estimable and generous personal qualities. He made a marriage calculated to perpetuate the great qualities of his stock, that with Urraca, daughter of **Alfonso I,** the great founder of Portugal, who, by consulting the Portugal chart, may be seen to be backed up by distinguished fathers and grandfathers, and to have himself derived in part his genius for war from the same stock of Spain already discussed, namely, Alfonso VI, "the Valiant."

However, Alfonso IX, his son, was without distinguished qualities or virtues. Coming, as he does, at the union of greatness, he must be counted as an exception.

Still, the genius of the race does not die here. His marriage was one of the very best, as his wife, Berengaria, was a famous heroine of Spanish history. She was a truly great and noble woman. Not only in her own qualities, but by her ancestors, she must have brought into Spain one of the best strains that any royal person at that time would have been likely to have represented. She was the daughter of Alfonso VIII, of Castile, rightly called "the Noble," whose reign was of great benefit to the country, himself a son of a successful warrior during a short career, and grandson of Alfonso VII, already noted for his success. Her grandfather was Henry II, one of England's most vigorous and able kings; according to Hume, "the greatest prince of his time for wisdom, virtue, and abilities."

After the death of Alfonso IX, the throne was taken up by Ferdinand III, his son. "He was a just, pious, able, and paternal ruler, as well as a valiant soldier." He triumphed over the infidels, and considerably extended his domains. His wife was a daughter of the Emperor Philip, a vigorous, warlike character, who, being assassinated when only thirty years old, never had an opportunity to display his real abilities. Philip was the son of **Frederick Barbarossa,** the greatest man and greatest power of his day. Thus a certain amount of able blood was here introduced. The power of the country was considerably increased under Ferdinand III.

Alfonso X, who was the son of Ferdinand III, had abilities and ambition, but was not at all a man suited to the times. He was weak and irresolute, not obeyed by his subordinates, and his reign was far from successful. His time was devoted to learning and the advance-

ment of science, which alone prospered under his rule. He showed a slight amount of cruelty, but this was not conspicuous compared with others in this age and land. There is no question but that Alfonso X, called "the Wise," was a man of great intellect.

His character forms an exception, and is the only one of the sort I have met with in this region. It is easily accounted for by a combination of ancestral qualities, but such combinations are apparently far from common. He was a poet, scientist, and writer, and through his influence learning was greatly advanced. He is said to have been the first royal personage who was also a man of letters. The marriage of Alfonso X with Violanta, undoubtedly served, to a certain extent, to perpetuate the strength of the stock, for his wife was a daughter of James, the Giant Conqueror of Aragon. Still, James, with his great abilities as a warrior, was violent, cruel, passionate, and licentious; and aside from James, there is not much distinguished blood in the characteristics of Violanta's pedigree.

We now come to a period of misfortune for Christian Spain, and it is interesting to note how closely the welfare of the country follows the character of the sovereigns, how great the impress of the ruler was on his times in those early days, in spite of the theoretical representation of the people in the popular council of the Cortes.

During the reigns of the next two succeeding monarchs, Sancho IV and Ferdinand IV, the family feuds and lack of a strong and wise ruler affected the country so disastrously that practically anarchy may be said to have prevailed.

Sancho IV inherited the cruel, passionate disposition

of his grandfather, James of Aragon, without his wisdom. His character was also warlike, vigorous, and cruel, and the only good fruits of his reign were his conquests against the Moors, whom he defeated in Andalusia, and even carried his victories into Tarifa, a town in the very furthest extremity of Spain. The marriage Sancho made, when considered on the grounds of perpetuating greatness, may be considered half or more than half good. His queen, Mary, though descended from largely "obscure" stock, was the great-granddaughter of the famous heroine, Berengaria, already mentioned. She was her worthy descendant, for she repeated her character in every particular. Resolute, calm, and devoted, she was an astute diplomatist and politician. Whatever successes marked Castilian affairs, were due largely to her.

Sancho's reign was short, lasting only eleven years. During the life of the queen mother, she exercised, as we have said, a beneficial influence, but after her death the reign of the feeble Ferdinand IV was one long list of disasters. Some may wonder why Ferdinand, coming from vigorous parentage, should have been so weak; but as many of his immediate ancestors were not endowed with vigorous minds, he had, of course, a chance to get qualities from the poorer of them. He did repeat the cruel, passionate, and tyrannical disposition to perfection, but no one appears to have paid any attention to his wishes.

Now again when the mental qualities are threatened we find them brilliantly restored. Constantine, the wife of Ferdinand, was a daughter of the best of the blood of Portugal. It is interesting to see Alfonso X, the scholar and poet, again in his grandson Dennis, of Portugal, in

another country and in another day where probably no influence of environment could come into play. Alfonso was the first and he was the second royal personage who was also a man of letters. The issue of this union was another of the heroes of old Castile, Alfonso XI, who succeeded to the throne in 1312, when only one year old; grew to be a great warrior against the Moors, and, taking after his maternal grandmother, possessed a large share of prudence and virtue, some of the rarer characteristics of his tribe. As an example of the respect felt for him even by his enemies, the following may suffice: The Moorish king of Granada is said to have exclaimed when he heard of Alfonso's death, "We have lost the best king in the world — one who knew how to honor the worthy, whether friend or foe." This eulogy is, however, somewhat offset by the evidence that he was extremely cruel at times.

It is now to be noted that there are an unusual number in the pedigree of Alfonso, who have the adjective "cruel" or some other designation of depravity attached to them. A close intermarriage here will undoubtedly give rise to some of those great and valiant qualities, courage, energy, and ability, in the leadership of men, which were possessed by some, though not by all these royal lords and dames. There is a fair chance that the literary or possibly the pious and amiable qualities may reappear. But such a close intermarriage would be a hazardous one to say the least.

Let us take a survey of the pedigree of Alfonso XI in order to see what proportionate amount of cruelty and depravity there is in the ancestry of each succeeding generation.

In five degrees of kinship back of Ferdinand II (d. 1187) we find three such, among the nine persons whose records were obtainable. In the same degree for Alfonso IX there were only two among the nine. Ferdinand III (d. 1252), who represents the next generation, had but three degenerate ancestors among the twelve. In the same degree of kinship for his son Alfonso X, we find five among eighteen. For the next generation (Sancho IV), the number is two in twelve. Ferdinand IV (d. 1312), his son, had three in fifteen. So we see that this type of character, though common, was present in Spanish royalty in these early centuries only to the extent of about one in four or five; but in the ancestry of Alfonso XI, on account of a gathering of this cruel type, we find no less than eleven such among the fifteen who could furnish records of any sort. It is simply that about Alfonso XI there happens to be brought together a number of strains from the four different countries, Aragon, Castile, Hungary, and Portugal, each containing an average amount of the qualities in question. However, owing to strange jumping about, which so many characteristics show in the course of hereditary transmission, Alfonso himself shows little of them, but is himself the bridge over which they pass to appear in his son, whose actions seemed more like that of a demon than a man — the incarnation of cruelty itself.

A very close intermarriage *was* made by this Alfonso XI of Castile. His wife was the daughter of Alfonso IV, of Portugal, a brilliant warrior, but withal a cruel tyrant, and of all rulers in Portugal "perchance the one whose memory has been most severely open to criticism." *

* McMurdo's "History of Portugal," vol. ii, p. 198.

Now let us see what proportion of the passionate and cruel would be found in five degrees of kinship for a child of Alfonso XI by such a wedlock. Owing to the intermarriage we find but eleven different persons, as several names appear twice. There are only three who are free from the characteristics in question, or eight in eleven show the passionate and cruel type. If we take all for six degrees removed, we find the number even worse, eleven in fourteen. A son could scarcely escape the worst sort of inheritance, except by the greatest fortune. What did happen was this. Peter, the only legitimate son of Alfonso XI, known in all history as Peter the Cruel, amused himself in some such way as the following: He imprisoned and foully treated his first wife, Blanche of Bourbon, and during the first part of his reign had many noblemen, among others, Don John, his cousin, executed in his presence. Once, it is stated, in the presence of the ladies of the court he commanded a number of gentlemen to be butchered until the queen, his mother, fell into a dead faint in company with most of the ladies present. He then caused to be murdered his own aunt, Donna Leonora, of Aragon, mother of the above Don Juan, for nothing except that Aragon would not make peace with him — "being compelled to get Moors to do the job, as no Castilian could be induced to undertake it," says King Pedro IV, of Aragon, in his memoirs. A certain priest coming before him to say that St. Domingo had appeared to him in a dream and counseled him to tell the king that he would meet his death at the hands of his brother, Henry, Peter insisted that the priest must have been prompted by Don Henry himself, and so ordered the poor dreamer to be burnt alive. One

lady, Urraca Osorio, for refusing his addresses, was burnt alive in the market-place of Seville. Another disfigured herself in order to escape his attentions. "He was as devoid of generosity as of pity, as reckless of the truth as of life, as greedy of gain as of blood — a false knight, a perjured husband, a brutal son." *

Thus Peter the Cruel is amply accounted for by heredity alone, without bringing in the question of the inheritance of any acquired characters; and it does seem that this brutality could not be the result of the environment in which he lived, since before his day, when times were even rougher, we find so many kings and queens possessing every virtue. There were never any before as bad as Peter, nor were there any, on grounds of heredity alone, as likely to be so. It is interesting to note that he was the great-great-grandfather of Richard III, of England, with whom he is often compared. Peter's actions cost him the loss of most of his subjects, and finally his life at the hands of his bastard brother, Henry, who had somewhat the same characteristics, though in a lesser degree.

Henry established a new line under the title of Henry II. His own origin was, probably, without distinction on his mother's side, and this is one of the four successive unions now to be discussed which cannot in any way be used to illustrate the perpetuation of genius. It is also at this time that we find four incompetent rulers, three of whom are described as imbeciles. This is very significant, though I do not see that the imbecility of John I, of Castile, is at all properly accounted for by heredity. Mere weakness, cruelty, and licentiousness might well be

* Watts, "The Christian Recovery of Spain."

expected, but not imbecility in the medical sense of the word, and I do not know that this medical sense is implied by the historians when using this term in connection with these persons. The origin of the well-known insanity in the Spanish and Austrian houses, perpetuated over thirteen generations and involving more than a score of individuals, is a very interesting question. It cannot be traced with certainty prior to Isabella, the Queen of John II, of Castile. This Isabella was out and out insane, according to the English alienist, W. W. Ireland;* and from her, onward, the insanity passed along in one form or another by the very intermarriages which their pride and political motives caused them to arrange, with the intended idea of making permanent their world power, but with the inevitable result of losing that same prestige by placing it in the hands of the unfortunate children whose inheritance was necessarily mental weakness as the result of such unwise wedlocks.

Without taking up the characters separately, we need only a complete genealogical chart to get a clear idea of the predetermined cause which led to the peculiar characters who were foremost during this epoch, and to see how perfectly natural it was that there should have been some exhibiting the most depraved characteristics, while others, like Ferdinand and **Isabella,** were fortunate enough to inherit the genius which we see is likewise present in a conspicuous degree. The chart shows that **Isabella** might be expected to be greater than Ferdinand. She had five elements of genius in her pedigree, being, through intermarriage, twice the great-granddaughter of John of Gaunt, Duke of Lancaster, one of the great men of his

* Ireland, "Blot upon the Brain." Edin., 1885.

day; and **John the Great,** of Portugal, appears twice in the pedigree for the same reason. She was also the granddaughter of Henry III, of Castile, who was a model of all that a king should be. Both Ferdinand and **Isabella** possessed high ability, as can be fully confirmed by consulting any history of the times. They were married through personal choice of the queen, as she appreciated in Ferdinand a man worthy of her love. Nothing could be better for the welfare of the country than that two such able rulers should sit upon the throne at once. But Ferdinand was her second cousin and the descendant of weak or perfidious rulers.

We now see that the children of this union have two estimable parents, but they have a remarkably bad lot of grandparents; and back of this we find the worst weaknesses in some, while in others is much ability of a very high sort. We should not expect a child to be ordinary. On the other hand, the most extraordinary is only to be expected. The two descendants whom we have here to consider are Joanna and her son, the Emperor, Charles V[514]. The former got the insanity and imbecility, the latter the genius and a touch of the psychosis as well. Every one in this region of the chart fills in a link in a way to be expected and is readily and perfectly explained.

This completes the study of the old Castile, Leon, and Aragon families. Let us review their characteristics. This subgroup contains ninety-seven names. The character and ability of the ninety-seven have been found in sixty-three cases with sufficient fullness for the purpose in hand. The other thirty-four must be marked "obscure." They are valuable in a negative way. There were about thirty-nine of the total who had very marked ability,

evidently considerably above the average of kings and queens, and such as should place them in grades (7) to (10) of the standard here used. This percentage of over one in three is a high one, but the most striking fact is that out of the forty-one actual sovereigns on the thrones of Castile, Leon, and Aragon, no less than twenty are of this (7)–(10) standard, while twelve more are in grade (6) for intellect, leaving only nine out of forty-one below the average. This I attribute in part to the constant struggle between the rival families, between brothers of the same family and other close relatives, in their jealous greed for power and domain, thus keeping up a struggle for existence, capable of showing itself in results, and partly to fortuitous chance endowing the heir to the throne with the qualities of the stronger rather than the weaker of his ancestry. The number who were weak or indolent is correspondingly small, though high temper, jealousy, and ambition are present in nearly all.

I find about six persons to whom the terms feeble, characterless, and indolent, are applied. Two of these, Andrew II, King of Hungary, and Ferdinand IV, of Castile, are apart from the others. The remaining four are very closely related, being father, son, nephew, and his son. These are John I, John II, Henry IV, of Castile, and Ferdinand I, of Aragon.

The family had already existed twelve generations before these characteristics appeared in it. In the tenth generation one of the greatest names is found in Ferdinand III, and even in the nineteenth and twenty-first generations some of the best and most vigorous and ambitious appear in Ferdinand, **Isabella,** and the Emperor Charles V, all of whom were the descendants of the privi-

leged few with a pedigree practically entirely of this class, extending back through more than twenty generations on all sides, and including many thousands of noble titles.

These names which close the group are as great as those which opened it. How can this be if the assumption of rank and power is to lead to degeneration? It may be argued that the necessity for action in these times of incessant strife obliged the individuals to be energetic, and so the characters were the product of their times, but we have seen that the *selection* alone would produce this. Furthermore, against the environment explanation we must remember the great number of able and vigorous men who appear much later in history in other countries, even in modern times, and the descendants of forty instead of twenty generations of blue-bloods. The modern Saxe-Coburg-Gotha chart is almost entirely free from weaknesses and indolence.

The insanity apparently started in Peter the Cruel. We have seen how his character might well have been the result of a combination of a large number of cruel persons. This insanity continually reappeared in Spain, where one finds it most frequently. It occasionally appeared in Austria, where it was less often introduced. It was also probably the origin of the Plantagenet neurosis, the full history of which I have not yet had time to study with any completeness.

(*b*) *Hapsburgs in Spain.*

[510] — [535.]

The pedigree of Philip the Handsome, who married the mad Joanna, of Spain, contains the great fighting

qualities of the old kings, tremendous energy, and great ruling functions, without a bit of the insanity and weaknesses shown in Castile and Leon. This was the famous marriage that placed the Hapsburgs on the highest pinnacle of power — a marriage almost certain to produce genius, and as certain to produce some descendants whose heritage would be imbecility or weakness, or whose ambition would only lead them to mad extremes. Both the genius and the insanity appear quite as we should expect, and it is to be noted that the psycho-neuroses are now seen to appear for the first time in the Hapsburgs, since they are introduced into this family through the blood of Castile and Leon; and, furthermore, these afflictions appear at once. From this time onward, insanity is rampant. Why should it have remained so, and not have diminished through reversion to the mean? Let us look at the subsequent marriages.

The Emperor Charles V[514] married Isabella, a daughter of Emanuel the First, of Portugal, a mediocre king, and an inbred descendant of the great Portugal house. Her mother was a sister of the mad Joanna, and granddaughter of John the imbecile and Isabella the insane. So this may be called a rather close intermarriage, as well as an unadvisable one. The Emperor[514] himself was somewhat eccentric. He was cruel as well as inordinately ambitious, but he was withal a great ruler. Towards the latter part of his life he was especially subject to melancholia. The effect of this unwise marriage was, of course, to perpetuate these traits. We shall see under Austria how the evil qualities were much less conspicuous, and how the influence of outside stock made itself felt in counteracting these undesirable perversions.

The descendants bred true to kind, and in all regions of the chart we find the vicious qualities appearing in places where we should most expect them, that is, in places where the intermarriages were closest.

It is a matter of common belief that intermarriage alone is a cause of insanity, therefore it is worth while to consider that here it is merely perpetuating what already exists, and cannot be considered the cause of its beginning. In a later chapter this question will be more fully discussed. It was not yet time for the intellectual qualities to entirely disappear, for Charles V[514] had two descendants who are celebrated historical characters. These were **Don John, of Austria**[522], and **Alexander Farnese,** both of whom so distinguished themselves by virtue of their great abilities, that abundant material can be found in any biographical dictionary to confirm the belief that these men were geniuses. His grandson, Albert, Archduke of Austria and Governor of the Netherlands, son of Maximilian II, was a man of high, though not the highest, talents. There are three others worth mentioning in this connection. The Archduke Charles[530], his great-grandson, is spoken of in this way:

"He died in the twenty-sixth year of his age of a malignant fever. He was deeply regretted by the nation, being universally considered a prince of extraordinary merit and endowments . . . active and ambitious spirit." *

The Cardinal Ferdinand[531], his brother, was a man of equal mark and merit, who, as Governor of the Netherlands, warded off Spain's impending disasters until his untimely death brought a great loss upon his country. He is spoken of in the highest terms by all

* Dunlop, "Mem. Spain."

historians, especially for his bravery, prudence, and magnanimity.*

It is noteworthy that two of these five were illegitimate, and that the greatest, **Alexander Farnese** and **Don John**[522], were these two. It seems probable that owing to the extremely high-strung and unstable condition of nearly all the members of the family, a union with an entirely different class of people would be of advantage to the health and balance of mind. It was not so much that ability was needed as a toning down of the excessiveness that had been manifesting itself in so many ways.

Of these mentioned, one was a son, two were grandsons, and two were great-grandsons. The most eminent were the closest related to the high wave centering around the Emperor Charles V; and it is probable that the number of more distant relations would not have been so large, but for the close intermarriages, giving the genius a chance to be further perpetuated than would ordinarily have been the case.

The kings of Spain never again had anything of the renowned abilities of **Isabella,** Charles V, or the celebrated warriors of early days, like Alfonso VI (1126), James I, of Aragon, or **John the Great,** of Portugal. It might have been that some of the eldest sons should have inherited the great qualities instead of the inferior ones, but Spain may be said to have been unlucky in this; and as the next three, Philip II, III, and IV, did not get the best, in each succeeding generation the chances of genius reappearing became more and more dim until the probabilities of a reversion were entirely unlikely.

Let us now notice the psycho-neuroses in this same

* Dunlop, "Mem. Spain," vol. i, p. 183, also Hume's "Spain."

CHARLES V OF AUSTRIA AND I OF SPAIN [514].

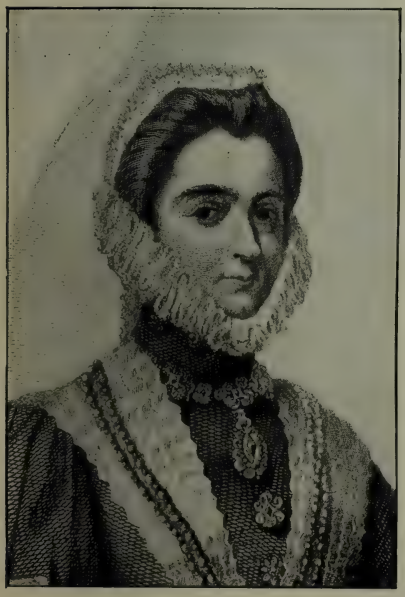
PHILIP II OF SPAIN [518].

PHILIP III OF SPAIN [526].

PHILIP IV OF SPAIN [528].

MARY, QUEEN OF HUNGARY [516],
Sister of Charles V.

MARY [519],
Daughter of Charles V, married Maximilian II of Austria.



JOANNA OF AUSTRIA [520].
Married John of Portugal, daughter of [514],

ISABELLA [524],
Daughter of Philip II.

region. The amount of insanity, or at least marked deviation from the normal, should be strikingly conspicuous owing to the intermarriages. It is so. Philip II is described in this way by Motley.

"He was believed to be the reverse of the Emperor [his father]. Charles sought great enterprises, Philip would avoid them. . . . The son was reserved, cautious, suspicious of all men and capable of sacrificing a realm from hesitation and timidity. The father had a genius for action, the son a predilection for repose. His talents were in truth very much below mediocrity. A petty passion for contemptible details characterized him from youth . . . diligent with great ambition. . . . He was grossly licentious and cruel." *

Philip II evidently took after his grandmother, Joanna the Mad, who was weak and melancholic. He did not resemble either his father or mother. Both of Philip's marriages were, from the biological point of view, extremely unwise, the first being worse than the second, as Mary, his first wife, was a daughter of John III, of Portugal, who was weak and bigoted, in fact, a man much like Philip himself. Philip's wife was doubly related to him, being both first and second cousin, and this relation came by way of the insane ancestors. So what wonder that the child of this union, Don Carlos, should have been one of the most despicable and unfortunate specimens of humanity in modern history?

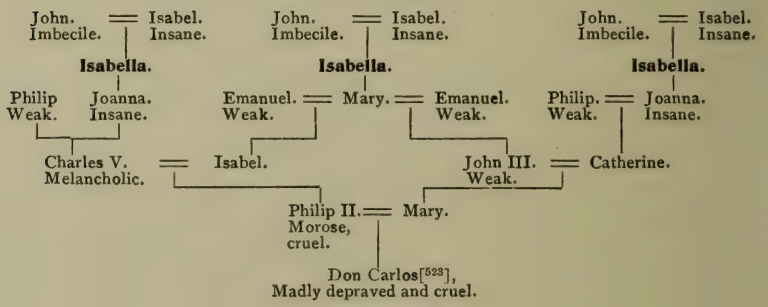
The following pedigree of Don Carlos shows his chances of inheriting the inbred psycho-neurosis.

Here, if there had been many children instead of one, I should say that in a rough way, extreme degeneration

* Motley's "Rise Dutch Rep.," vol. i, p. 142.

would be likely to be present in somewhat more than half the number. It is significant to notice that the two worst characters in all modern royalty, Don Carlos and Peter the Cruel, are also the two who have the worst pedigrees.

Don Carlos, it will be observed, though a great-grandson of Joanna "the Mad" and Philip "the Weak," has almost exactly the same blood. Ferdinand and **Isabella** extend right across the chart. Emanuel takes his origin from a root almost identical with both Ferdinand and **Isabella,** and this root we have seen is the reign in which the insanity must have originated. I do not see how



Philip could have planned it better if he had wanted this son whom he really so much despised.

The son by Philip's only other productive marriage was Philip III[526]. Here again we have a close inbreeding, though through a somewhat better route. Anne was his own niece and even more closely related than a niece, as her father was Philip's own cousin. The only outside blood was distant, by Ladislaus, King of Hungary. This stem was presumably healthy though not distinguished. Philip III was a man of very low mental caliber (about grade 2). Hume says he was not a fool, though Prescott

calls him "the imbecile grandson of Charles V." The melancholic tendency appeared in him, though not to the extent of insanity. Ireland sums the whole situation up thus: "Philip was a man of feeble and indolent character, governed by worthless favorites. The power of Spain declined as rapidly as it had risen." *

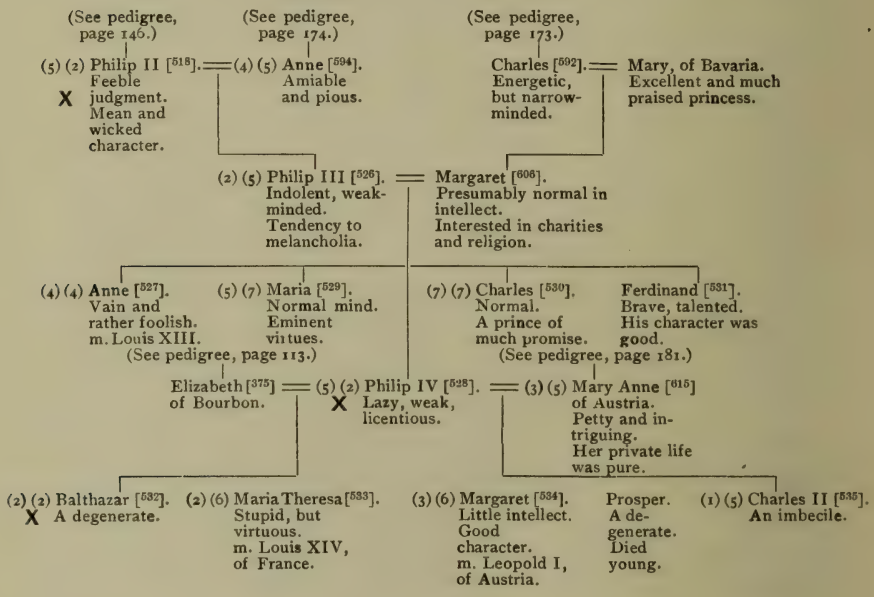
This is the same story over again in the history of Spain. We find the condition of the country reflecting the character and strength of the monarch. Many times through the course of the centuries she had been blessed, apparently through heredity, by great and able rulers, and her course had been hampered only here and there by the presence of a weak one; but all this from the great Emperor Charles's day onward was to be reversed by the same almost unerring law of descent. I do not mean that a weak monarch might not exceptionally, even in those early days, reign over a glorious period. The apogee of Portugal lasted through the reigns of two weak sovereigns, Emanuel and John III, though the germs of decay were clearly at work. Likewise Spain's glory had its greatest outward manifestation of splendor in the time of Philip II, whose acts were nearly all injudicious. The increment of one period made itself felt in a later. Still, in general, the countries prospered only under the great leaders.

Philip III[526] was not as bad as Carlos, nor was his pedigree quite as hopeless. The roots from which he sprung were practically all from the weak John II, of Castile, and Isabella the insane. In this he was like Carlos. However, it is to be noted that three of his immediate ancestors were excellent characters, though not especially

* Ireland, "Blot upon the Brain," p. 156.

gifted. These are represented as such on the chart (p. 176). Ferdinand I[515] and Maximilian II will be taken up under Austria.

The marriage of Philip III[526] was no more fortunate. His queen was the daughter of Charles[592], Duke of Styria, who was not the possessor of great talents, and was the son of the same Ferdinand I[515]. Charles's wife was of "obscure" origin. Thus the neurosis was per-


(See pedigree, page 146.)
(See pedigree, page 174.)
(See pedigree, page 173.)
(5) (2) Philip II [518]. Feeble judgment. Mean and wicked character.
X
(4) (5) Anne [594]. Amiable and pious.
Charles [592]. Energetic, but narrow-minded.
Mary, of Bavaria. Excellent and much praised princess.
(2) (5) Philip III [526]. Indolent, weak-minded. Tendency to melancholia.
Margaret [606]. Presumably normal in intellect. Interested in charities and religion.
(4) (4) Anne [527]. Vain and rather foolish. m. Louis XIII.
(See pedigree, page 113.)
(5) (7) Maria [529]. Normal mind. Eminent virtues.
(7) (7) Charles [530]. Normal. A prince of much promise.
Ferdinand [531]. Brave, talented. His character was good.
(See pedigree, page 181.)
Elizabeth [375] of Bourbon.
(5) (2) Philip IV [528]. Lazy, weak, licentious.
X
(3) (5) Mary Anne [615] of Austria. Petty and intriguing. Her private life was pure.
(2) (2) Balthazar [532]. A degenerate.
X
(2) (6) Maria Theresa [533]. Stupid, but virtuous. m. Louis XIV, of France.
(3) (6) Margaret [534]. Little intellect. Good character. m. Leopold I, of Austria.
Prosper. A degenerate. Died young.
(1) (5) Charles II [535]. An imbecile.

petuated, and furthermore the genius was not maintained. However, very high ability still cropped out in two of Philip the Third's many children. These were Charles and Ferdinand, already referred to; but unfortunately the crown did not fall to either of them, and so we have an accidental selection of the worst. The reign of Philip IV[528], who became king, was a period of great misfortune.

His only good quality was his love of art and literature, and perhaps his best bequests to the world are the famous portraits of himself and family painted by the great Velasquez.

Besides being weak and foolish, he was "far inferior to his predecessor in purity of life." "Spain might still have regained the lofty station she once held in the rank of kingdoms if, at the succession of Philip IV, a wise and energetic monarch had ascended the throne." *

By his marriage with his niece, Mary Anne[615], he succeeded in having two degenerates, Prosper, who had convulsive fits from his birth and died young, and Charles II, who became king.

"Charles was the last of the Spanish-Austria line, and in him all its weaknesses were combined. Feeble in mind and body, he was grossly superstitious, and so ignorant that he did not know the names of some of his own towns and provinces." †

By his marriage with Elizabeth[375], who was a great-granddaughter of Ferdinand I, and consequently partially of the same tainted stock, Philip IV had one licentious weakling. This child, Don Balthazar[532], the subject of the famous Velasquez recently acquired by the Boston Museum of Fine Arts, was so dissipated that he brought himself to his grave before he had reached his seventeenth year.‡ Another, Maria Theresa[533], who married Louis XIV, was extremely stupid.

Charles II did not have any posterity, and the war of the Spanish succession deluged Europe with blood; but

* Dunlop, "Memoirs of Spain," vol. i, p. 23.
† Young, "History of the Netherlands," p. 611.
‡ Dunlop, "Memoirs of Spain," vol. i, p. 378.

the Austrian house did not reach its end through any sterility caused by inbreeding, for, in spite of the inbreeding, it is noteworthy that they had large families, quite as large as elsewhere. Many of the children died in infancy, but the wives were not sterile. It cannot be argued that inbreeding was a cause of the large percentages of early deaths, since we have also to deal with the question of insanity and neuroses. All sorts of mental and physical defects, such as are known to be frequently found in families with an insane diathesis, may have been the cause.

Even closely associated with the most degenerate relations we find perfectly normal and oftentimes very superior characters. Among these we may here mention, Eleanor[513], Ferdinand[515], Catherine[517], Mary[519], Joanna[520], Don John[522], Isabella Clara[524], Mary[529], Charles[530], and Ferdinand[531], all closely related to the most degenerate members of the family, against whom they stand out in sharp contrast, illustrating the universal principle of segregation (*alternative* inheritance) in psychic heredity.

(c) *Bourbons in Spain and Italy*

[536] — [582]

PHILIP V TO THE PRESENT DAY

The male or Hapsburg line having become extinct in 1700, on the death of Charles II, the Bourbons came upon the Spanish throne. This group may be subdivided into four smaller groups:

1. Primogeniture line of Spain.
2. Children of Philip, Duke of Parma.
3. Male line in the Two Sicilies.
4. The Carlists.

DON FERDINAND [531],
Son of Philip III.

CHARLES II OF SPAIN [535].

FERDINAND VI OF SPAIN [536].

PHILIP OF PARMA [539],
Son of Philip V of Spain.

PHILIP V OF SPAIN [386].

CHARLES III OF SPAIN [537].

FERDINAND VII OF SPAIN [551].

MARIA CHRISTINA [568],
Queen of Spain.

I shall start with Philip V, and include in the group with him all his ancestors to the third or great-grandparent degree. This supplies 87½ per cent of influence, according to Galton's law. Next all the children of Philip V will be included, as well as all their ancestors to the third degree. Then following down the line that corresponds to the throne, I shall treat of each "fraternity" in turn until the present Alfonso XIII is reached. After this the other male lines (2–4) will be taken up. The daughters are also included, but not their children, as these are considered under the male lines in other countries — Austria, France, Portugal, etc. There are forty-seven persons in this group who require tracing. As each has fourteen ancestors in the third degree (two parents, four grandparents, eight great-grandparents), the total number of persons concerned is several hundred. All are of value, even the remote edges, because any striking trait, insanity, genius, or moral depravity exhibited in a certain ancestor, should reappear further down; if not in some branch represented in its own country, then perhaps here in Spain. There are many of these second- and third-degree ancestors who have the worst possible epithets bestowed upon them, such as the type of Louis XV, of France; but there are only two out of several hundred who have ever been called great, or who could be ranked with the geniuses of a grade as high as (9).

These are **Maria Theresa,** of Austria, and her grandson, the celebrated Archduke **Charles,** who won distinction in his battles against Napoleon. **Maria Theresa** comes in this group no nearer than a grandparent and then only twice, and as a great-grandparent only three times. In none of the Spanish descendants does her

genius reappear, though in Austria, in generations which immediately follow her, one sees higher marks for intellect. The Archduke **Charles** enters this group merely as a grandfather of the present Queen Dowager of Spain, who is no unworthy descendant. The tracing of this higher mental strain, its origin and its reappearance, is to be found under Austria.

So with regard to genius, the results are conclusive. The other characters are nearly all between (1) and (6), the great majority being below mediocrity, illustrating the intellect of the Bourbons, which, as some one has said, never rose above cunning. Although this statement is not absolutely true, there seems to be a certain characteristic type of mind most often seen, — low craftiness for intrigue, combined with laziness, debauchery, tyranny, and often cowardice. This last is the slur we can least frequently bring against royalty. Whatever they were, they were nearly always brave.

The mental qualities are, for the most part, below the mean, while the moral qualities fall as far below the average as in any of the worst regions of older times; as bad as the Romanoffs in the seventeenth and eighteenth centuries. Charts dealing with this group show just how, if heredity be a great force, Spain was brought to her unfortunate fate, how nearly impossible it was that she should have escaped it.

Another important point to notice is the strong variation in the moral qualities. It is very easy to separate the sheep from the goats. There are only a few about whom we should hesitate to say whether they were good or bad. I have attempted to so classify them in the following list. There are thirty-four persons in this list,

of whom fourteen were either cruel or dissolute or both. These have the mark x against them. There are at least seven either insane or showing the neurosis in a marked degree. These have the mark * applied to them. This leaves only sixteen free. Of these, six are known to have been indolent almost to point of disease. Thus, only about ten in the thirty-four were normal. This is a remarkably small ratio of normal, and is less than found in any other country.

*Philip V[386].
*Ferdinand VI[536].
xLouis, 1707–1724.
Charles III[537].
Philip, Duke of Parma[539].
Marie Anne[538].
Charles IV[545].
x*Ferdinand I, Two Sicilies[546].
x*Philip, imbecile son of Charles III.
Maria Louisa, wife of Leopold II, of Austria.
x*Ferdinand VII[551].
Carlos, first pretender[552].
Isabella[553].
xCarlotta, Queen of Portugal[549].
Francis de Paula[554].
xIsabella II (Queen)[555].
Maria Louisa, Montpensier[556].
Alfonso XII.
xFerdinand, D. of Parma[558].
xMaria Louisa[559].
Elizabeth[557].
xFrancis I, Two Sicilies[561].
Antonia[564].
x̄Ferdinand II ("Bomba")[569].
xChristina[568].
Carlotta, wife of Francis de Paula[567].

×Francis II, Two Sicilies.
Don Carlos (VI)[578].
*John[579].
×Don Carlos (VII)[581].
Alfonso[582].
*Elvira, dau. of [581].
×Henry, 1823–1870.
Francis d'Assis, b. 1822.

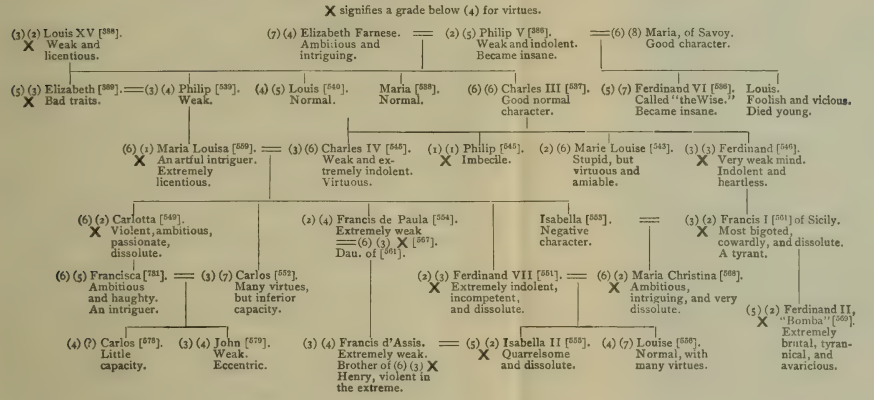
It will be shown that selection of the worst in each generation will account for this unfortunate condition, without other causes being necessarily introduced. We get some idea here of the extent to which a degradation can be carried, and it is worthy of note that it may be perpetuated for a great number of generations, even when breeding in. There is no evidence that the in-breeding has led to sterility, as is usually contended by historians and students of the subject. Although the male line by way of the oldest sons ceased, once at Charles II, and again at Ferdinand VII, nearly every marriage was prolific of many children, even among the closest blood relations; and one has but to glance at the "Almanach de Gotha" for the current year to see the number of descendants that are being born to the closely interrelated families of Hapsburg, Bourbon, and Orleans.

1. *The Line of Primogeniture in Spain*

[536] — [556]

After the War of the Spanish Succession the throne of Spain passed to the house of Bourbon, in the person of Philip V[386], a grandson of Louis XIV, of France, and a weak descendant of a mediocre breed. Although Spain changed the name, she did not change the blood nor the

Chart of Modern Spain. Showing the perpetuation of degeneration by selection.


X signifies a grade below (4) for virtues.
(3) (2) Louis XV [388]. Weak and licentious.
(7) (4) Elizabeth Farnese. Ambitious and intriguing.
(2) (5) Philip V [388]. Weak and indolent. Became insane.
(6) (8) Maria, of Savoy. Good character.
(5) (3) Elizabeth [389]. Bad traits.
(3) (4) Philip [539]. Weak.
(4) (5) Louis [540]. Normal.
Maria [688]. Normal.
(6) (6) Charles III [537]. Good normal character.
(5) (7) Ferdinand VI [536]. Called "the Wise." Became insane.
Louis. Foolish and vicious. Died young.
(6) (1) Maria Louisa [559]. An artful intriguer. Extremely licentious.
(3) (6) Charles IV [545]. Weak and extremely indolent. Virtuous.
(1) (1) Philip [545]. Imbecile.
(2) (6) Marie Louise [543]. Stupid, but virtuous and amiable.
(3) (3) Ferdinand [546]. Very weak mind. Indolent and heartless.
(6) (2) Carlotta [549]. Violent, ambitious, passionate, dissolute.
(2) (4) Francis de Paula [554]. Extremely weak (6) (3) [557]. Dau. of [561].
Isabella [563]. Negative character.
(3) (2) Francis I [551] of Sicily. Most bigoted, cowardly, and dissolute. A tyrant.
(6) (5) Francisca [781]. Ambitious and haughty. An intriguer.
(3) (7) Carlos [552]. Many virtues, but inferior capacity.
(2) (3) Ferdinand VII [561]. Extremely indolent, incompetent, and dissolute.
(6) (2) Maria Christina [568]. Ambitious, intriguing, and very dissolute.
(5) (2) Ferdinand II, "Bomba" [569]. Extremely brutal, tyrannical, and avaricious.
(4) (?) Carlos [578]. Little capacity.
(3) (4) John [579]. Weak. Eccentric.
(3) (4) Francis d'Assis. Extremely weak. Brother of (6) (3) Henry, violent in the extreme.
(5) (2) Isabella II [555]. Quarrelsome and dissolute.
(4) (7) Louise [556]. Normal, with many virtues.

characteristics of her sovereigns. The lines of descent by which the insanity of Joanna the Mad and weaknesses of Philip the Handsome were passed along by a continuous chain of intermarriages, may be traced from generation to generation, and the line of greatest weakness corresponds to the region of closest intermarriages. Philip V[386] inherited more or less of the psycho-neurosis from all quarters, although remote. This, by chance reversion, appeared in him, in full force, and so could then be again transmitted in equal force (foregoing chart). It is not surprising that it reappeared, in the offspring of his marriage with Maria (on the right), as she derived *her* descent from almost the same stock. Both the sons showed the taint. One was good and "Wise," one was foolish and vicious, but unfortunately the "Wise" one, Ferdinand VI[536], became insane. Both are easily reconciled to heredity. Ferdinand VI took his character and mind from his mother, but happened to get more than an average share of the family psychosis. Louis was merely another bad specimen of Bourbon degeneration, not resembling very closely either parent.

By the marriage with Elizabeth Farnese (ancestry normal), Philip V had, as an heir, Charles III, of Spain, who was the best of the more modern sovereigns of that country — in fact, the only normal one since before the days of the Emperor Charles V, now seven generations in the background. Not that Charles III inherited any of the ancient genius, for that had gone, never to appear again. He was, however, "an enlightened, generous, and just king and a noble and magnanimous man," * and "possessed

* Hume, "Spain, Greatness and Decay."

abilities as a monarch, and virtues as a private citizen," " . . . was a popular sovereign and a great economist of time, scrupulously methodical in all his operations." * He was not remarkable in any way, except that he was a good king of Spain. If all of the nine children and grandchildren of Philip V and Elizabeth Farnese had been much like Charles III, or, in other words, normal, I should consider that here would be a good illustration of the extreme unreliability of heredity in individual instances. But the mental degeneration *was* perpetuated, to the following extent. One of the three children, Philip of Parma[539], turned out a weak but well-meaning prince, four of the seven grandchildren were very poor characters, and still another grandchild, Maria, Queen of Portugal, became insane. Spain was fortunate in getting Charles III instead of his brother Philip, who fell to the lot of Parma. He was decidedly superior to Philip, who was debauched and licentious, and unsuccessful in his political affairs. Before coming to the throne of Spain, Charles III spent a number of years at the head of affairs in Naples, which land also profited by his just administration, as much as she subsequently suffered under the later rulers, Ferdinand IV[546], "Bomba," and Francis I.

Charles III[537] married Amelia, of Saxony. She died young, and appears to have been a rather negative character, except that she is spoken of as having an unreliable temper.† Her father was Augustus II, a man of "inferior capacity and energy." Her mother was Maria

* Rose's "Biog. Dict."

† Armstrong, "Elizabeth Farnese," p. 395.

Josepha, of Austria[624], "very plain and destitute of accomplishments." *

Her maternal grandfather was Joseph I, of Austria, an able and ambitious sovereign, whose queen was slightly above mediocrity and not peculiar. Thus, this union may be considered a fair average one, with only a sprinkling of insanity, through the ancestry of Joseph I, of Austria. However, it turned out disastrously, apparently through chance; the elder sons, taking from the father's side, being the ones to exhibit most of the family weaknesses. Out of a large number of children (seven reached adult years), the psychosis appeared in Philip[544], Ferdinand[546], and Charles[545]. Philip was an imbecile, and fortunately died young, but both Ferdinand and Charles became the progenitors of the future kings and queens of Spain.

Ferdinand[546], who became IV of Naples, was a rude, uncultivated boor, in whom environment is said to have played a part. He was characterized as "puerile." Charles, who became Charles IV, of Spain, was not quite so hopeless, having some intelligence and well-meaning notions; but he was absolutely useless as a king; his neurosis took the form of extreme languor; and being easily ruled, he was completely under the control of his unscrupulous wife.

The only one of the four children of Charles III, here treated of, who was normal, was the mild and good Maria Louisa[543], who was wedded to Leopold II, of Austria. Another Maria Louisa[559], the queen of Charles IV[545], just referred to, was his own cousin, by the weaker or paternal side, besides bringing in the worst of the Bour-

* "Memoirs Margravine of Bareith," vol. i, p. 118.

bon moral depravity from her mother and mother's family. If the makers of royal marriages had wished to perpetuate the degeneracy, they could not have done better; and so Spain was treated to such sovereigns as Ferdinand VII[551], the weak and incompetent Carlists, and the intriguing princesses and consumptive princes, all of whom did what they could to further the downfall of their country.

Maria Louisa[559] was an able woman in the way of management and intrigue, but her moral character was about as black as any princess in modern history. We can discuss five of her children.

Ferdinand VII [551], who came to the throne, well represented his father in weakness, and mother in wickedness. His first act was to reëstablish the Inquisition. "He was the worst of the Bourbon kings, . . . had no conception of the duties of a ruler. His public conduct was regulated by pride and superstition, and his private life was stained by the grossest sensual indulgence." * From his childhood he had a tendency to melancholia, which increased as years went on. With regard to his trusting to unworthy favorites, he seemed to have derived no advantages from experience, to have learned nothing in the school of adversity. In early life, he himself had been the victim of a favorite, in Godoy the "Prince of Peace." According to Hubbard, it is entirely unjust to accuse the queen, Maria Louisa, and the "Prince of Peace" with having tried to oppose his intellectual and moral education. On the other hand, everything was done to give him good instruction, that he might be competent to direct the affairs of state.†

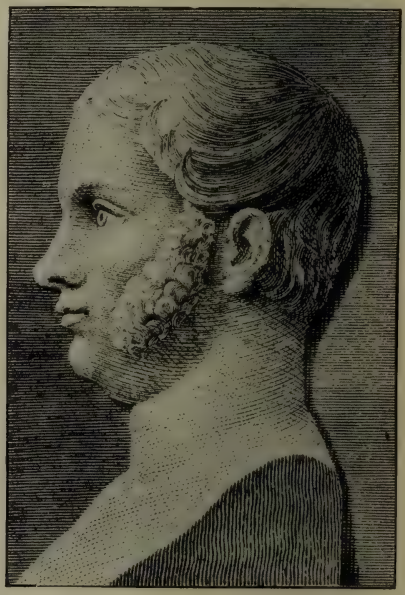
* "Encyclop. Brit.," 9th ed., article Spain.

† "Hist. Contemp. de l'Espagne," tome i, p. 241.

FAMILY OF CHARLES IV OF SPAIN[545], AND[559].

FERDINAND IV OF NAPLES, AND I OF THE TWO SICILIES[546].

ISABELLA[553],
Daughter of Charles IV of Spain.



FRANCIS I OF THE TWO SICILIES[561].

MARIA THERESA[560],
Daughter of Ferdinand IV of Naples.

MARIE AMELIA[563],
Queen of Louis Philippe.

DON CARLOS[552],
Son of Charles IV.

FERDINAND II OF THE TWO SICILIES.
"BOMBA"[569].

Don Carlos[552], his younger brother, was too feeble and irresolute to take advantage of the times during the Carlist uprising and gain control of affairs. During all the wars he was merely a figurehead, both in the military and political decisions. Don Carlos possessed, however, what Ferdinand lacked, a high moral purpose and sense of duty. He was also literary and religious in his tastes, and his private life was above reproach. His sister, Carlotta[549], who became queen of John VI, of Portugal, was the child who showed the abilities of Maria Louisa, their mother. She repeated her mother almost exactly. "Before the entry of the French in Portugal, there were domestic troubles between Carlotta and her husband, when she passed much of her time in religious seclusion in the cloister of Mafra. According to various accounts, her conduct did not improve on her arrival in the Brazils. The author of the 'Civil War in Portugal,' says: 'She was a woman of violent spirit entering upon party politics, with the ambitious views of seizing the reins of government. To gain her ends she fearlessly hazarded her own life and those of her adherents. When in Rio de Janeiro she showed her daring and violent spirit by firing a pistol at Lobato, the king's favorite. . . . She was an accomplished woman. Her conversation was full of wit and spirit.'" * Her private life was as dissolute as that of her mother.

Her sister, Isabella[553], who married Francis I, of the Two Sicilies, was, I judge, a negative person, as I have found no mention of her character or achievements. The other brother, Francis de Paula[554], was probably not a son of Charles IV at all, being born after the queen's inti-

* Bollaert, "Wars of Portugal and Spain," vol. i, p. 58.

macy with Godoy. "The infant Don Francis bore not the slightest resemblance to his brothers, who were strikingly alike. He was a person of very inferior gifts, . . . a poor little specimen of royalty, both physically and mentally." * "In a moment of great excitement, Maria Louise acknowledged Godoy to be his father, and as she intrigued to have the elder brothers set aside and to secure him the succession, doubt may be considered to exist concerning his legitimacy. The liberal party looked to Francis, and he might have played a great rôle, if he had showed himself endowed with moral and intellectual qualities." † This doubt of legitimacy does not apply in the case of the other children, as they were born before the queen's intimacy with Godoy.

Thus Carlos[552] was, like his father, good, but feeble. Carlotta[549], bright, but wicked, like her mother. Isabella was negative, and Ferdinand[551] was both feeble and bad. This strong variation in the children corresponds with the variation in the pedigree.

Ferdinand does not clearly repeat any near ancestor, but is easily explained as a combination of both his parents plus the ancient family melancholia. Francis[554], feeble morally and mentally, does not resemble either parent alone, but is an exhibition of heredity, because either nothing at all in mind, or that of a clever intriguer is all that is to be expected at this point, as the parentage of Godoy was extremely "obscure."

The next prolific royal marriage, that of Ferdinand VII[551], should turn out no better and perpetuate the same traits. He married four times. The queen by

* Hume, "Modern Spain," pp. 269, 391.

† Latimer, "Spain in the XIX Century," p. 15.

whom he had children was Maria Christina[568], his own niece — her mother was his sister Isabella[553], wife of Francis I, of the Two Sicilies[561]. We have seen how full of bad spots the stock of Isabella[553] was. Francis I[561] was no better, being one of the worst of Italy's tyrants, and the son of two who were quite as undesirable. Maria Christina[568] was a granddaughter of Maria Louisa[559], and was just about like her. The chart shows that unless she took after her mother, who was a nobody, to the exclusion of all others, she could not help having a combination of extremely vicious traits; unless a rare chance should bring out some of the great-grandparents. All four of her grandparents, as well as her father, were either verging on imbecility or were exceptionally low in their moral natures.

Christina[568] did all that could be expected of her. Her entire life was devoted either to political mischief or debauchery, and one needs only to look in the first biographical dictionary to see how absolutely her life is condemned.

Like Maria Louisa[559], she possessed plenty of ambition such as it was; and always scheming, her very talents were worse than none, in her pernicious influences on the politics of Spain. "Ferdinand VII was as much under his wife's control as his father had been before him, and the life of that woman, like the other, was a scandal and a disgrace."

Ferdinand VII[551] had two daughters, and nothing could be greater than the contrast between them. Each can be partially, at any rate, explained by their environment. Each can be wholly explained by heredity. The elder, Isabella II[555], was her mother over again.

Isabella II, of Spain, had a career so notorious and dissolute that the memory of it has not entirely gone from the minds of many who are alive to-day. She too, like her predecessors, possessed both wit and spirit, and her active political interests made it so much the worse for her country. Her sister, Maria Louise[556], on the contrary, was an amiable and virtuous woman, a good wife and mother, and in her domestic, quiet life, showed the greatest contrast to Isabella. Maria was very happily married to the Duke of Montpensier, an artistic, noble-minded son of Louis Philippe; and although her position was not an enviable one, nor her life altogether happy, her husband's influence may have been beneficial in the formation of her character.

Isabella is all that we should expect from heredity. Maria Louisa is the unexpected. A large number of children like herself — such as we have in the children of Maria Theresa[626], of Austria — would certainly argue against heredity. One alone, as seen here, cannot, as she may have taken her characteristics from her grandmother, Maria Isabella[553], or from some more remote ancestors. It is only where there are a large number of verified children in the family, that reliable conclusions can be drawn relative to the degree of influence that can be placed on heredity *vs.* environment. However, those who believe that character is formed young, from surroundings, could not consider that Maria Louisa was a case in point.

As stated before, no attempt will be made to discuss each case, and fathom the intricate associations between inherited and acquired traits. It is too difficult. Attempt alone is made to test the reliability of heredity in

a large number of cases and to determine the error or fault in it alone.

The next marriage, that of Isabella II and her cousin Francis d'Assis, was equally bad, since Francis was a degenerate little fool, and thought incapable of procreation. Isabella II had fourteen children, all allowed by law as legitimate, but the nature of her private life was such that they are of little use for scientific purposes, and we shall discuss only her son Alfonso XII, for the sake of closing the dynasty of Spain and bringing it up to the present day. Alfonso XII was consumptive, but otherwise normal, a fairly good and sensible man, though not brilliant. He died so young that we cannot be sure of his mental traits; still, he bade fair not to resemble his mother. The pictures of Alfonso XII show an entirely different type of face from the Hapsburg-Bourbon, and lends force to the suspicion that outside blood is there. His first wife, Mercedes, was a model of feminine graces; and his second wife, the present regent, has a character too well known for nobility and virtue to need any comment here. Thus, Alfonso XIII, the present king, may be watched with considerable interest. With father and mother both normal, though father consumptive, two grandfathers weak and eccentric, one of whom was physically degenerate (or possibly one of them, some unknown subject of Isabella's), one grandmother, Elizabeth, of Austria, excellent, and a third and fourth generation pedigree, full of vices and depravities, to possibly revert to, and with one great-grandparent, **Charles of Austria,** one of the noblest and most brilliant princes that ever lived, and a bringing up of the most careful sort, it is indeed difficult to predict what the future king of Spain will be like.

2. *Children of Philip*[539] *of Parma*[557]–[559]

Here, two are bad, and one is good; two are bright and one stupid. The variation is what the pedigree calls for, though the mental average is somewhat above the expected.

3. *The Male Line in the Two Sicilies*[560]–[577]

The third son of Charles III, of Spain, became, on his father's ascension to the throne of that country, Ferdinand I, of the Two Sicilies[546]. He was called an "imbecile king," being weak in both mind and moral character. Ferdinand has already been treated of under Spain, in connection with his brothers and sister.

His queen, Caroline[635], was a daughter of Francis I, of Austria, and the famous **Maria Theresa.** Caroline was herself a remarkable woman, and had a great and pernicious influence on the times. As her traits and life will be discussed under Austria, it is only necessary to state that her mind was brilliant, and her character (as summed up in Lippincott's "Biog. Dictionary") was that of a princess of "great ambition, cruelty, and energy." According to Galton, the children of her marriage would receive, as regards their maternal side, half of their influence from her, and half from all her ancestors. As the ancestors have a comparatively clean record on the moral side, this union may be considered half good, and half bad; while on the intellectual, it should be considered good, though not extremely so, as may be seen from the charts of Spain and Austria.

The next generation can be seen to give us an expected result. Francis I[561], weak and tyrannical, Antonia[564],

getting the brains as well as virtue from the strength of her four good grandparents, and having "a lofty, vigorous mind, and good character." * † She had no children. Marie Amelia[563], another daughter, became the queen of Louis Philippe, and is everywhere spoken of with veneration and respect. Two other adult children were "obscure."

It can be seen that Francis I[561] married Isabella[553], a daughter of Charles IV, of Spain, and, therefore, his first cousin. Children of this marriage would have a bad father and all their grandparents cast in the same mold. Six of the eight great-grandparents would be good, though this, however, is supposed to have small influence (about 10 per cent). So the outlook may be considered unpromising, to say the least. (See chart opp. p. 154.)

Ferdinand II[569], the eldest son, had a most notorious career. He succeeded his father to the throne of the Two Sicilies in 1830. The blame which in his first edict he cast on his predecessors, raised the hope that he was about to make sincere efforts to heal the wounds of his country, but this illusion did not last long. A stranger to pleasures in the ordinary sense, his only thoughts were for money and power. The saintly queen, Christine, of Savoy, whom he had married in 1832, died in 1836, a victim of his brutalities. His atrocities were seen on every side; and during the Italian wars, the horrible bombardment of Messina gained for him the name of King "Bomba," by which he is generally known.‡

* Hubbard, vol. i, p. 244.
† Busk, "Spain and Portugal," p. 252.
‡ Grande Encyclop.

His sister, the notorious Maria Christina, of Spain[568], has already been described. Another daughter of Francis I[561], Louise Carlotta, married Francis de Paula[554]. She was an overbearing, ambitious, intriguing princess, but not as bad a character as her sister Christina[568]. Her sister Caroline, however, ranks as normal, so here again we see contrasts agreeing with the pedigree. It may be noted, that the extreme languor and weaknesses which characterized the children of Charles IV, here give place to arrogance, haughtiness, and energy, corresponding to the Austrian blood, which was practically absent in the primogeniture line of Spain at this period.

The notorious "Bomba"[569] married Christina, of Savoy. She was venerated by her subjects and called "the Saint." As we have only one child of theirs to discuss, it is not worth while entering into particulars, for here either the worst characters or the best would fill the requirements of heredity. This son, like all others in Bourbon Spain, confirms the theory of non-blends when considering mental traits. He received the title of Francis II, and was "weak-minded, ignorant, and bigoted." He was almost like his father, except that his mind was somewhat inferior.* The others in the latest generations of the family are too recent and unimportant to furnish enough authenticated information for use in this study. It is sufficient to state, that though there are many of them, none have shown intellectual eminence, nor should we expect it, the chart giving no prophecy in this direction.

4. *The Carlists.* (*Pretenders*)[578]—[582]

These Carlist pretenders came into existence in the following way: Through the intrigues of Marie Christina,

* Orsi, "Modern Italy."

and the Pragmatic Sanction of Ferdinand VII, the old Salic law, which insured the inheritance to males alone, was set aside in 1832, in order that the king's daughter, Isabella, should come upon the throne. This branch of the Bourbon royal house of Spain claims to be the only legitimate one as representing the male line. It is but a little group, and contains only seven names, all of whom, being without greatness, and deficient in either mental or moral endowments, fulfill the expectations of heredity.

Don Carlos[552], the first, was a younger son of Charles IV. His lack of energy and intellect has already been referred to. His good moral character was in direct contrast to his brother, Ferdinand VII, and seems unreasonable on the grounds of environment. Don Carlos had three sons, Carlos[578], John[579], and Ferdinand[580]. We hear nothing about Ferdinand[580]. Carlos[578] did not amount to much, and abdicated his claim to the throne in favor of his brother John[579]. John was a nobody, and, furthermore, became "so eccentric in his conduct that his wife left him, returning to her brother's court at Modena." *

John had two sons, Carlos[581], the present claimant, and Alfonso[582], who had a share in the Carlist uprising of the early seventies. He was nominally in control of the forces in Catalonia, Navarre, and Valencia, but apparently did nothing himself. Don Carlos[581] is thus described in Hume's "Spain," p. 510: "Ostentatious and pleasure-loving, was a poor figurehead morally, although his appearance was splendid in the extreme. . . . This was the pretender's chance, and on several occasions he would have been welcomed with open arms by a majority

* Latimer, "Spain," p. 344.

of the Spaniards, if he had possessed the wit and daring to take fortune at its flood, and had assumed the position of a defender of authority against the looming anarchy which threatened." His chief good point was his love of literature.* Both he and Alfonso had a good education. One other person, Elvira, may be mentioned. She is a daughter of Carlos[581]. While this princess was "rusticating for her health, on account of extreme nervousness and hysteria," in November, 1896, she eloped with a married man. The others have not been heard from.† It can be seen from the chart, that there is no expectation of eminence from the pedigree, though the conditions of the times have called for it, with as urgent an appeal as ever came from the struggles of a dying country.

Summary of Modern Spain

The occurrence just where they fall of every one of these modern Spanish Bourbons, is compatible with the theory of mental and moral inheritance. There is no greatness springing up where we least expect it; there is no viciousness and imbecility that might not be explained from heredity alone. There is nothing that need be more than pure selection and repetition.

Of course, we expect from Galton's law that, on the average, the descendants will show less of any peculiarity than the parents, and here we shall see that averaging all the descendants it is so, but all descendants would include other countries, Portugal, Austria, Italy, and France; and including all these, there is a bettering of affairs from the

* Latimer, "Spain," p. 345.

† Since writing the above, another daughter of Don Carlos has, according to the newspapers, eloped with a coachman.

time of Philip V[386] onward, but one must notice the artificial selection that took place in Spain. It was as if they were breeding mental monstrosities for a bench show. We see no diminution in either the debauchery or tyranny. The insanity does appear less at the bottom of the chart; but it will also be noticed that the early degenerates, Ferdinand VI[536] and Philip[545], son of Charles III[537], who were avowedly insane, had no children, and the worst was consequently eliminated, while the worst moral depravity and laziness were not only perpetuated, but usually drawn from and in a double or triple way. This view of selection alone is important, because this same family is usually considered to have run out through external circumstances and to have followed an easy road from opulence and luxury to indolence and decline.

Among all the races considered in this book, a family never runs out except by selection, no matter what the condition of environment may be. It is far from my wish to assume that environment has done *nothing* in molding these characters, and especially the moral characters that fall under this group of modern Spain. If it has done *much* in order to account for a considerable number of excellent ones, and these often as good as any princes that have ever lived, we must assume that it, like the pedigree, was likely to bring about great variations. This probability will be discussed when all the greater groups are compared one with the other. If environment did have much to do with molding their individual destinies, there is no apparent culminated inherited effect from it. After five or six generations the people are practically neither worse nor better than at first.

Nineteenth century estimates had no effect in lessening the cruelty and arrogance of Ferdinand II, "Bomba." He was as bad a tyrant as ever lived in the Middle Ages. His son was a man of the same type. The conditions in Portugal and Spain were not very different from those in Italy where Ferdinand lived, and yet Portugal and Spain show us nothing to be compared with the brutalities of this father and son. Ferdinand II was no more a tyrant than his grandmother or some others among the Hapsburgs, Francis, of Modena, for instance. Carlotta alone of those belonging to the immediate branch of the throne of Spain (occurring at the left of the chart) would be rightly characterized by the word "tyrant." Yet the conditions in Spain for the formation of an autocrat might be justly considered as conducive to this effect as were those of Italy. It will be noticed that the branches in Spain are practically free from this tyrannical type, except that Carlotta, daughter of Charles IV, showed something of this character, and one of her sons, Miguel, exhibited it in a high degree. She was one among four children to show the violent type. On the other side of the house, where the blood of the tyrannical Caroline, of Austria, is closest, we have "Bomba" and Carlotta, two of the same type in three children, and also Henry, one in two, and Francis II, one in one. (These are not on the chart.) Imitation may have played a rôle, but then why did a certain definite number imitate, and only a certain number do so?

What shall we say here of free-will? How could it have played any appreciable part in molding the characters of these scores of people, each apparently welding a little link in a chain, the destinies of which seem as much

the result of birth and breeding as the product of the most carefully conducted racing stable?

Spain: opinions averaged from Biog. Universelle; Nouv. Biog.; Lippincott's; J. Dunlop; Baumgarten; W. Coxe; Dunham; Lafuente; Schäfer, Lembke, and Schirrmacher; Rosseeuw; U. R. Burke; M. A. S. Hume; Prescott; W. Walton; Colleta; McMurdo, Portugal; Hubbard; Yriarte; Latimer; Stillman, "Union of Italy"; W. Bollaert, "Wars of Port. and Spain"; A. George, "Queens of Spain"; Motley; and Encyclop. Britannica. *See Appendix.*

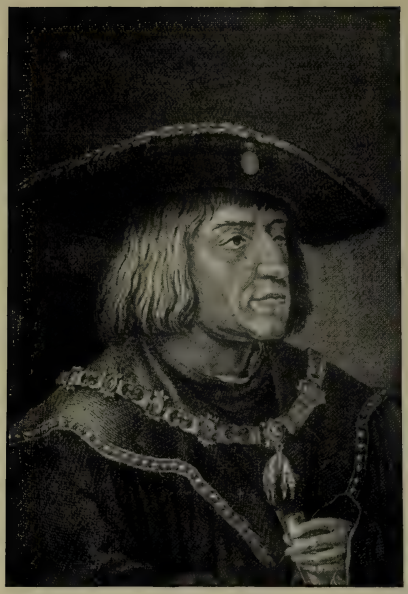
CHAPTER XI

Hapsburgs in Austria

[583]—[656]

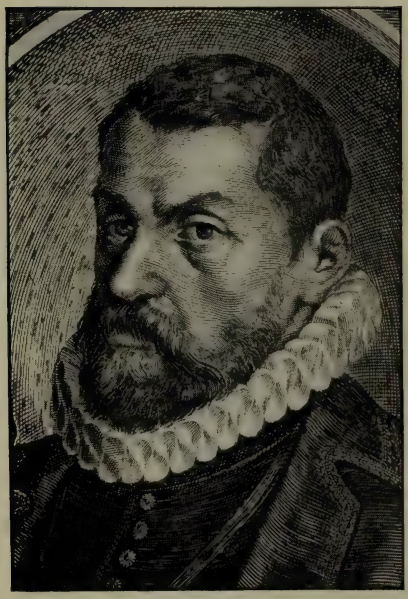
A study of the Bourbons in France, and the Hapsburgs in Spain, naturally leads to a consideration of the Hapsburgs in Austria, the third division of the great interrelated group who held sway on the chief thrones of Europe during the three centuries following the Renaissance. France has shown us the Bourbons, beginning with characters who were either distinctively strong or else equally weak, followed by characters mediocre or dissolute, and ending with mediocrities who were often high in the moral scale. We have found the Hapsburgs in Spain first appearing either strong or eccentric, followed by weaknesses, coupled with the same eccentricities, while the Bourbons in Spain carried the later type, even to the present day. All these changes can be prophesied from a study of the different ingredients of blood in the pedigrees formed, provided full charts, containing the maternal side, be constructed. We shall now see these same mental peculiarities, and also the facial, appearing in the house of Austria, and determine how far their appearances and absences are in keeping with the prediction which inheritance, pure and simple, will warrant.

The Austrian branch began with Ferdinand I[515], a



MAXIMILIAN I, EMPEROR [519].

MAXIMILIAN II, EMPEROR [583]



CHARLES OF STEIERMARK [592],
Son of Ferdinand I.

ERNEST [596],
Son of Maximilian II.

JOANNA [593],
Daughter of Ferdinand I of Austria.

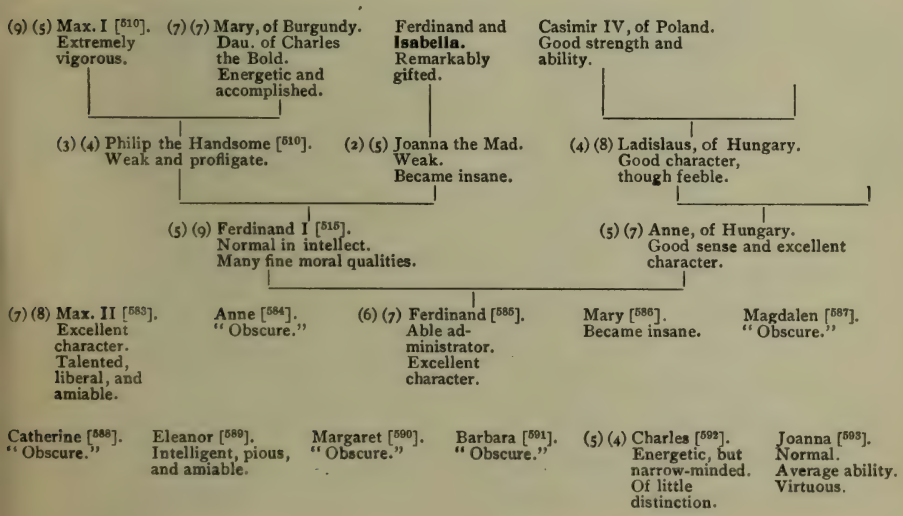
ELIZABETH [597],
Married Charles IX of France.

FERDINAND II, EMPEROR [603].

LEOPOLD I, EMPEROR [616],

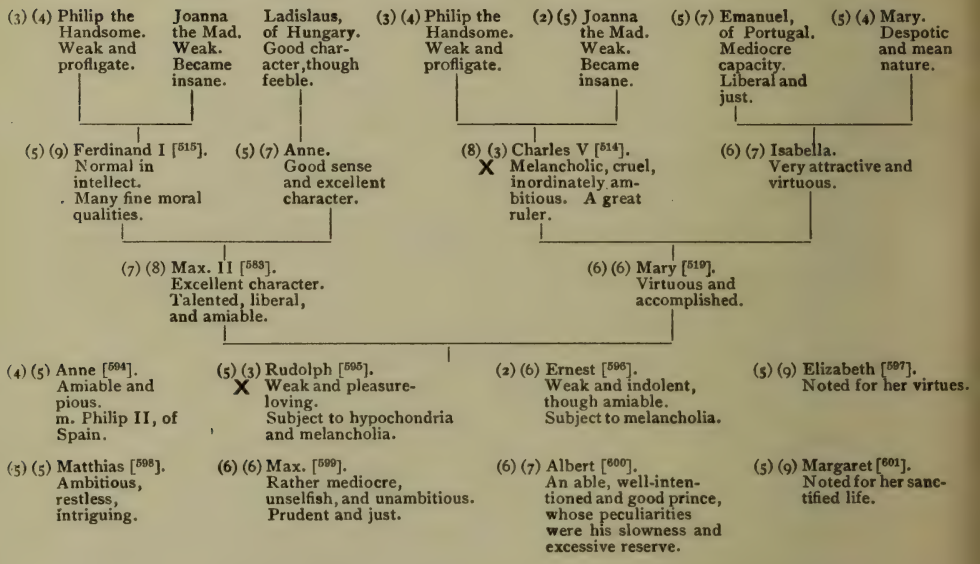
mediocre, though, in point of private character, an excellent prince. He was a younger brother of the Emperor Charles V. His marriage with Anne, daughter of Ladislaus, King of Poland, must be considered extremely good from the present point of view, and should tend to lessen the insanity inheritable from Ferdinand's mother, Joanna the Mad.

From this marriage were born eleven children[583]–[593], one of whom, Mary[586], is recorded as showing the mental unbalance of their grandmother, Joanna. The appearance of talent is also in perfect accord with the expected. Maximilian II[583] represents the brains of the family, while the others are all close to mediocrity. One dissolute descendant would not be unexpected, though the fact that none of this type is found is not especially out of harmony with prediction. The pedigree of this "fraternity" is given below.


(9) (5) Max. I [510]. Extremely vigorous.
(7) (7) Mary, of Burgundy. Dau. of Charles the Bold. Energetic and accomplished.
Ferdinand and Isabella. Remarkably gifted.
Casimir IV, of Poland. Good strength and ability.
(3) (4) Philip the Handsome [510]. Weak and profligate.
(2) (5) Joanna the Mad. Weak. Became insane.
(4) (8) Ladislaus, of Hungary. Good character, though feeble.
(5) (9) Ferdinand I [516]. Normal in intellect. Many fine moral qualities.
(5) (7) Anne, of Hungary. Good sense and excellent character.
(7) (8) Max. II [583]. Excellent character. Talented, liberal, and amiable.
Anne [584]. "Obscure."
(6) (7) Ferdinand [585]. Able administrator. Excellent character.
Mary [586]. Became insane.
Magdalen [587]. "Obscure."
Catherine [588]. "Obscure."
Eleanor [589]. Intelligent, pious, and amiable.
Margaret [590]. "Obscure."
Barbara [591]. "Obscure."
(5) (4) Charles [592]. Energetic, but narrow-minded. Of little distinction.
Joanna [593]. Normal. Average ability. Virtuous.

Maximilian II[583], the eldest son, was in every way normal, and an excellent character. For this reason the psychosis might not be expected to appear again in any of his children, provided his alliance be with normal stock like that of his father, Ferdinand I.

Maximilian II, however, married Mary[519], a normal daughter of Charles V, who was abnormal, with abnormal ancestry, his mother being Joanna the Mad. We should now expect strong variations among the children.


(3) (4) Philip the Handsome. Weak and profligate.
Joanna the Mad. Weak. Became insane.
Ladislaus, of Hungary. Good character, though feeble.
(3) (4) Philip the Handsome. Weak and profligate.
(2) (5) Joanna the Mad. Weak. Became insane.
(5) (7) Emanuel, of Portugal. Mediocre capacity. Liberal and just.
(5) (4) Mary. Despotic and mean nature.
(5) (9) Ferdinand I [515]. Normal in intellect. Many fine moral qualities.
(5) (7) Anne. Good sense and excellent character.
(8) (3) Charles V [514]. X Melancholic, cruel, inordinately ambitious. A great ruler.
(6) (7) Isabella. Very attractive and virtuous.
(7) (8) Max. II [583]. Excellent character. Talented, liberal, and amiable.
(6) (6) Mary [519]. Virtuous and accomplished.
(4) (5) Anne [594]. Amiable and pious. m. Philip II, of Spain.
(5) (3) Rudolph [595]. X Weak and pleasure-loving. Subject to hypochondria and melancholia.
(2) (6) Ernest [596]. Weak and indolent, though amiable. Subject to melancholia.
(5) (9) Elizabeth [597]. Noted for her virtues.
(5) (5) Matthias [598]. Ambitious, restless, intriguing.
(6) (6) Max. [599]. Rather mediocre, unselfish, and unambitious. Prudent and just.
(6) (7) Albert [600]. An able, well-intentioned and good prince, whose peculiarities were his slowness and excessive reserve.
(5) (9) Margaret [601]. Noted for her sanctified life.

What we do get is this — two subject to melancholia, [595] and [596], and a third, [600], eccentrically slow and reserved; with the other five normal; a result to be expected, since the majority should resemble their parents and normal ancestors. The entire grading of the children, as regards virtue (right-hand figures), is, (5), (3), (6), (9), (5), (6), (7), (9). This high rating for moral qualities is

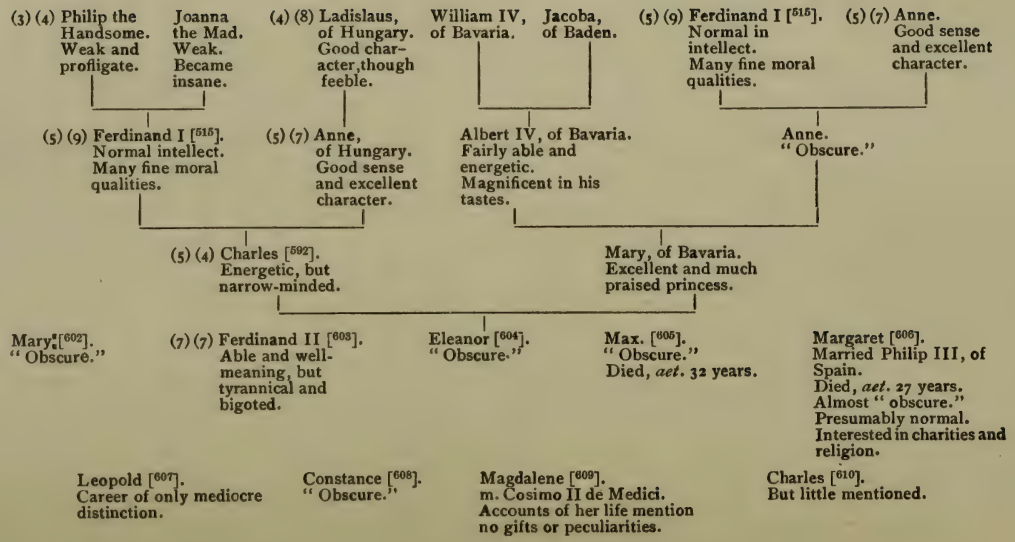
to be expected, because the parents were both as high as (8) and (6), while the grandparents average well, (9), (7), (3), (7). The intellectual grades (left hand) for the children are, (4), (5), (2), (5), (5), (6), (6), (5). There should have been one in a very high grade to correspond with the genius inbred in the ancestry (grandparents of [514]–[515]). So all but one in this generation may be called expected.

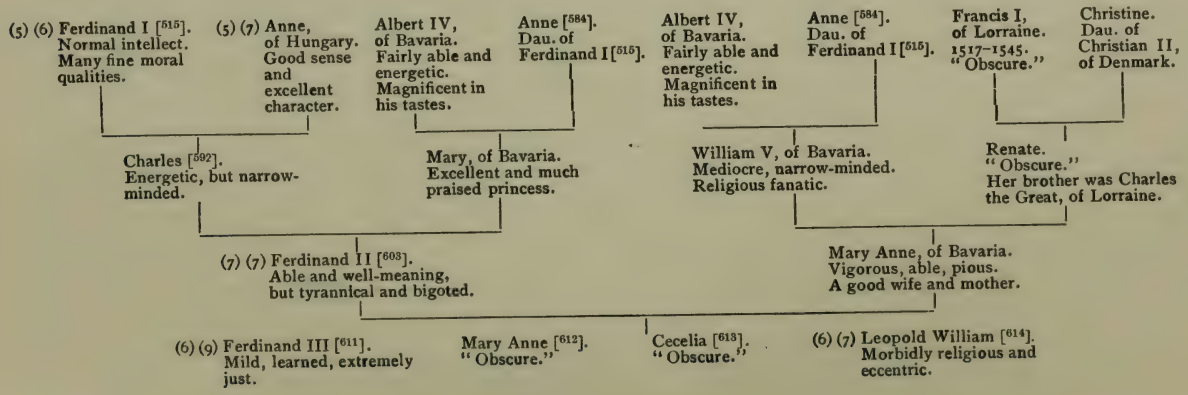
The third generation is from Charles[592], a younger son of Ferdinand I[515]. This Charles, who inherited Styria on his father's death, has left us little record in history save his zeal in persecuting Protestants. He married Mary, daughter of Albert IV, of Bavaria, very good stock at this time, though devoid of genius. Thus no genius should appear among the children, and none did.

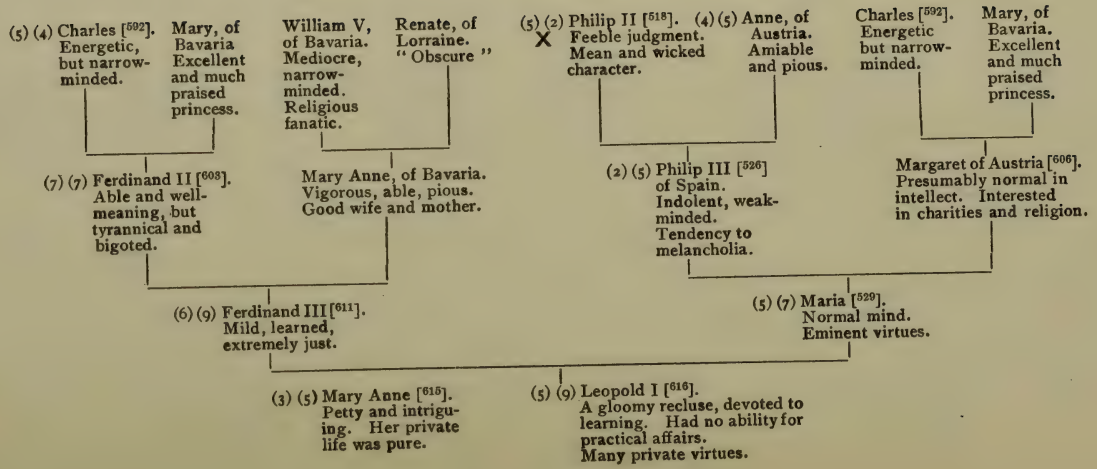
Ferdinand II[603] was the only child of the nine to rise at all above mediocrity. It is also to be noted that no appearance of the family insanity is recorded; and this defect should be eliminated by this time, as we find parents, grandparents, uncles, and aunts, except [586], all free from the taint. Thus the stock in Austria is now relatively good, though mediocre.

Ferdinand II[603] also married outside the Hapsburg-Bourbon neurotic and degenerate ranks. His children also will be free from the stigma, though we cannot now expect much above the average in intellectual qualities. What this fraternity of four children does give is (6) (9), (6) (7), and two others "obscure." So here we have no unexpected exception. (See pedigree, p. 177.)

Ferdinand III[611], (6) (9), married first a princess of the tainted house, Maria[529], daughter of Philip III, of Spain. Abnormalities might now be expected. There

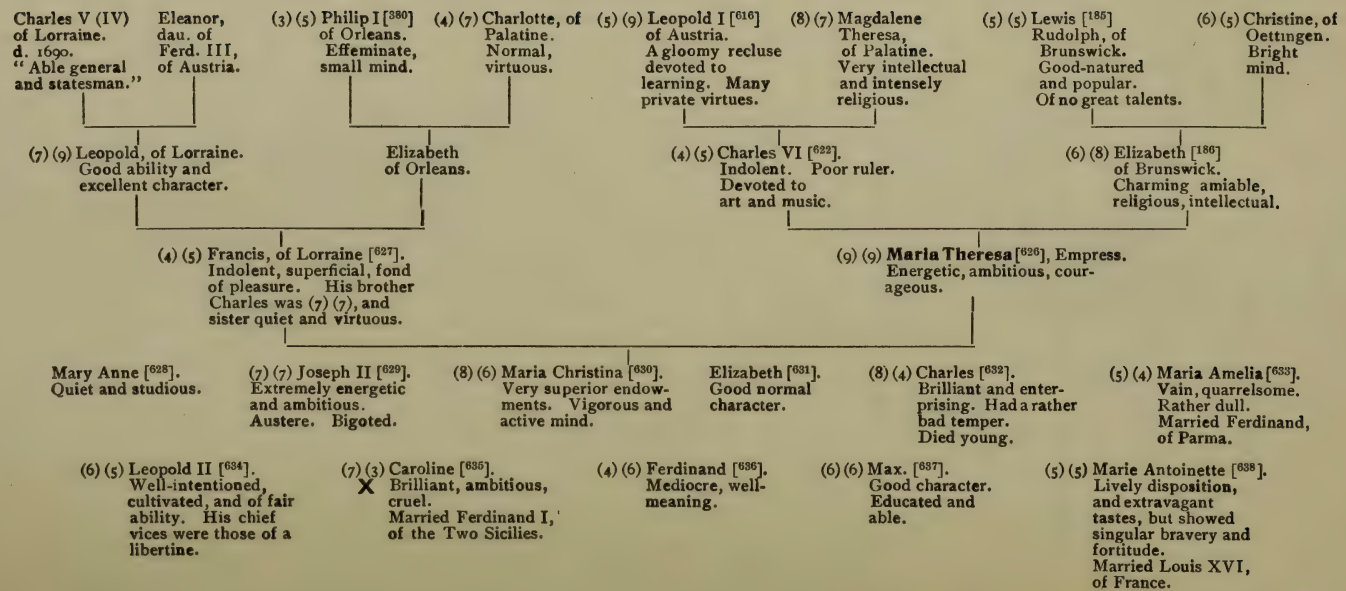

(3) (4) Philip the Handsome. Weak and profligate.
Joanna the Mad. Weak. Became insane.
(4) (8) Ladislaus, of Hungary. Good character, though feeble.
William IV, of Bavaria.
Jacoba, of Baden.
(5) (9) Ferdinand I [515]. Normal in intellect. Many fine moral qualities.
(5) (7) Anne. Good sense and excellent character.
(5) (9) Ferdinand I [515]. Normal intellect. Many fine moral qualities.
(5) (7) Anne, of Hungary. Good sense and excellent character.
Albert IV, of Bavaria. Fairly able and energetic. Magnificent in his tastes.
Anne. "Obscure."
(5) (4) Charles [592]. Energetic, but narrow-minded.
Mary, of Bavaria. Excellent and much praised princess.
Mary [602]. "Obscure."
(7) (7) Ferdinand II [603]. Able and well-meaning, but tyrannical and bigoted.
Eleanor [604]. "Obscure."
Max. [605]. "Obscure." Died, aet. 32 years.
Margaret [606]. Married Philip III, of Spain. Died, aet. 27 years. Almost "obscure." Presumably normal. Interested in charities and religion.
Leopold [607]. Career of only mediocre distinction.
Constance [608]. "Obscure."
Magdalene [609]. m. Cosimo II de Medici. Accounts of her life mention no gifts or peculiarities.
Charles [610]. But little mentioned.


(5) (6) Ferdinand I [515]. Normal intellect. Many fine moral qualities.
(5) (7) Anne, of Hungary. Good sense and excellent character.
Albert IV, of Bavaria. Fairly able and energetic. Magnificent in his tastes.
Anne [584]. Dau. of Ferdinand I [515].
Albert IV, of Bavaria. Fairly able and energetic. Magnificent in his tastes.
Anne [584]. Dau. of Ferdinand I [515].
Francis I, of Lorraine. 1517–1545. "Obscure."
Christine. Dau. of Christian II, of Denmark.
Charles [592]. Energetic, but narrow-minded.
Mary, of Bavaria. Excellent and much praised princess.
William V, of Bavaria. Mediocre, narrow-minded. Religious fanatic.
Renate. "Obscure." Her brother was Charles the Great, of Lorraine.
(7) (7) Ferdinand II [603]. Able and well-meaning, but tyrannical and bigoted.
Mary Anne, of Bavaria. Vigorous, able, pious. A good wife and mother.
(6) (9) Ferdinand III [611]. Mild, learned, extremely just.
Mary Anne [612]. "Obscure."
Cecelia [613]. "Obscure."
(6) (7) Leopold William [614]. Morbidly religious and eccentric.


(5) (4) Charles [592]. Energetic, but narrow-minded.
Mary, of Bavaria Excellent and much praised princess.
William V, of Bavaria. Mediocre, narrow-minded. Religious fanatic.
Renate, of Lorraine. "Obscure"
(5) (2) Philip II [518]. Feeble judgment. Mean and wicked character.
X
(4) (5) Anne, of Austria. Amiable and pious.
Charles [592]. Energetic but narrow-minded.
Mary, of Bavaria. Excellent and much praised princess.
(7) (7) Ferdinand II [603]. Able and well-meaning, but tyrannical and bigoted.
Mary Anne, of Bavaria. Vigorous, able, pious. Good wife and mother.
(2) (5) Philip III [526] of Spain. Indolent, weak-minded. Tendency to melancholia.
Margaret of Austria [606]. Presumably normal in intellect. Interested in charities and religion.
(6) (9) Ferdinand III [611]. Mild, learned, extremely just.
(5) (7) Maria [529]. Normal mind. Eminent virtues.
(3) (5) Mary Anne [615]. Petty and intriguing. Her private life was pure.
(5) (9) Leopold I [616]. A gloomy recluse, devoted to learning. Had no ability for practical affairs. Many private virtues.

were but two children from this marriage, Mary Anne[615], (3) (5), and Leopold I[616], (5) (9), who was an eccentric recluse of weak constitution. The daughters by another marriage, [617] and [618], are "obscure."

The next alliance, that of Leopold I[616], was excellent from the standpoint of heredity. His third wife, Magdalene Theresa (8) (7), was herself an intellectual woman, a daughter of Philip William, of the Palatine house, and not of the contaminated stock. In her we see the beginning of a new group of distinguished Hapsburgs, centering around the famous **Maria Theresa.** Among her five children, one, Joseph I (8) (7), represented her traits, while Mary Anne[621] and Charles VI[622] showed the indifferent make-up of their father. The variations called for by the ancestry are found. Again good and intelligent, if not famous ancestors were introduced in the alliance which Charles VI[622] made with the house of Brunswick. He married a daughter of Lewis Rudolph[185], of the good and literary branch of Brunswick, studied in the early chapters of this book. The only child to reach maturity was **Maria Theresa,** the famous queen of Austria, an able, brave, and noble woman. Her qualities are to be traced directly to her father's mother, with Joseph I, her uncle, as a collateral link. It is to be noted that we have seen nothing in the category of vice or mental deformity in this later portion of the Hapsburg house. Leopold I[616] came as a final reappearance of this type, not seen since Ernest[596], now five generations in the background. How much less free Spain and France were from vice, depravity, and melancholia, we have already seen. The contrast here is clearly due to differences in the selection of stock, for it is folly to

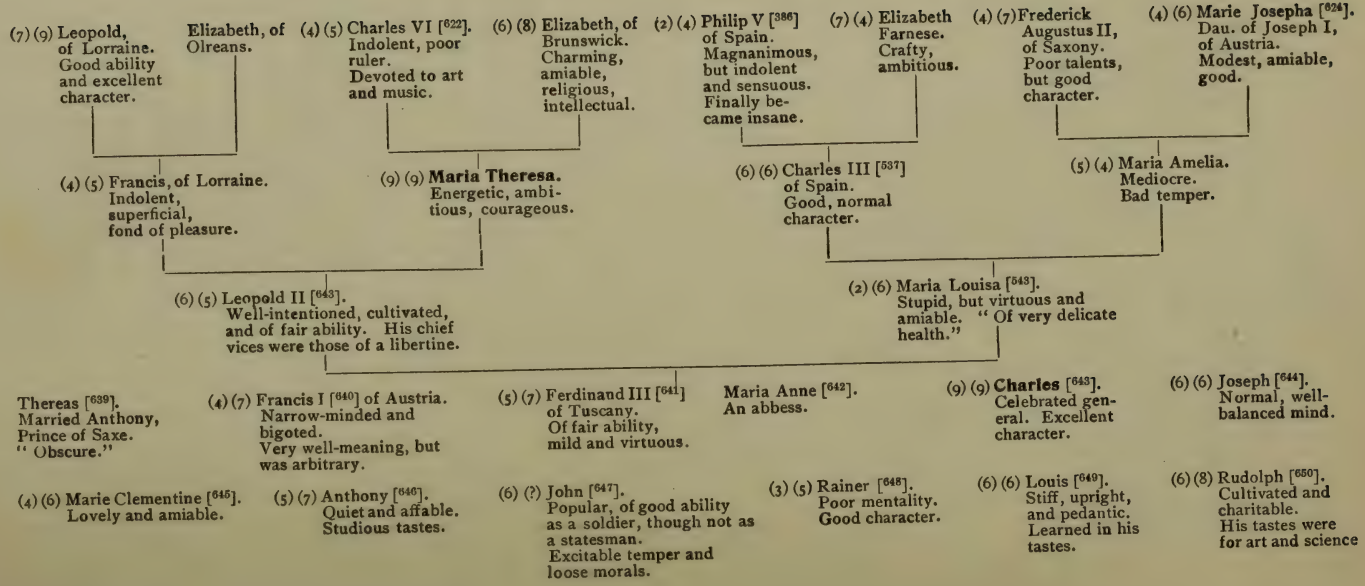

Charles V (IV) of Lorraine. d. 1690. "Able general and statesman."
Eleanor, dau. of Ferd. III, of Austria.
(3) (5) Philip I [380] of Orleans. Effeminate, small mind.
(4) (7) Charlotte, of Palatine. Normal, virtuous.
(5) (9) Leopold I [616] of Austria. A gloomy recluse devoted to learning. Many private virtues.
(8) (7) Magdalene Theresa, of Palatine. Very intellectual and intensely religious.
(5) (5) Lewis [185] Rudolph, of Brunswick. Good-natured and popular. Of no great talents.
(6) (5) Christine, of Oettingen. Bright mind.
(7) (9) Leopold, of Lorraine. Good ability and excellent character.
Elizabeth of Orleans.
(4) (5) Charles VI [622]. Indolent. Poor ruler. Devoted to art and music.
(6) (8) Elizabeth [180] of Brunswick. Charming amiable, religious, intellectual.
(4) (5) Francis, of Lorraine [627]. Indolent, superficial, fond of pleasure. His brother Charles was (7) (7), and sister quiet and virtuous.
(9) (9) Maria Theresa [626], Empress. Energetic, ambitious, courageous.
Mary Anne [628]. Quiet and studious.
(7) (7) Joseph II [629]. Extremely energetic and ambitious. Austere. Bigoted.
(8) (6) Maria Christina [630]. Very superior endowments. Vigorous and active mind.
Elizabeth [631]. Good normal character.
(8) (4) Charles [632]. Brilliant and enterprising. Had a rather bad temper. Died young.
(5) (4) Maria Amelia [633]. Vain, quarrelsome. Rather dull. Married Ferdinand, of Parma.
(6) (5) Leopold II [634]. Well-intentioned, cultivated, and of fair ability. His chief vices were those of a libertine.
(7) (3) Caroline [635]. Brilliant, ambitious, cruel. Married Ferdinand I, of the Two Sicilies.
(4) (6) Ferdinand [636]. Mediocre, well-meaning.
(6) (6) Max. [637]. Good character. Educated and able.
(5) (5) Marie Antoinette [638]. Lively disposition, and extravagant tastes, but showed singular bravery and fortitude. Married Louis XVI, of France.

suppose that the individuals of this special group were not subject to the usual temptations which come to princes. In the study of the Hapsburg "lip," we shall see why *this* peculiarity was maintained, when the degeneracy was not, and this also by the action of selection alone.

Maria Theresa married Francis I, of Lorraine, which brings us to another subdivision of the family, with a new facial and physical type; and we shall see how both the Hapsburg "lip" and the weak mentalities were again occasionally introduced into the reigning family of Austria.

From the union of the Hapsburgs with the house of Lorraine, beneficial results might be expected to follow, since little that was undesirable existed in the later stock, and in the father, grandfather, and brother of Francis[627] we find able and excellent characters. It would now be impossible from expected inheritance, that any considerable number of degenerates should be found in the next generation. One would also expect, among thirteen children, three or four repeating the superior mental gifts and active ambition of their mother, **Maria Theresa.** The chart below shows that there were just four distinctly brilliant offspring, while the high moral average is entirely in keeping with the pedigree. The cruelty of Caroline[635] remains, however, unaccounted for.

The next pedigree (p. 182) gives us **Maria Theresa,** now a grandparent and the only decidedly intellectual ancestor on the chart. **Charles**[648], the celebrated general of the Napoleonic wars, was the one to whom the birthright of his grandmother descended; while the others were not far from mediocrity; while to Rainer[648] alone, came the distinctly trivial mind of his mother. The pedigree is devoid of moral degenerates, and this is upheld

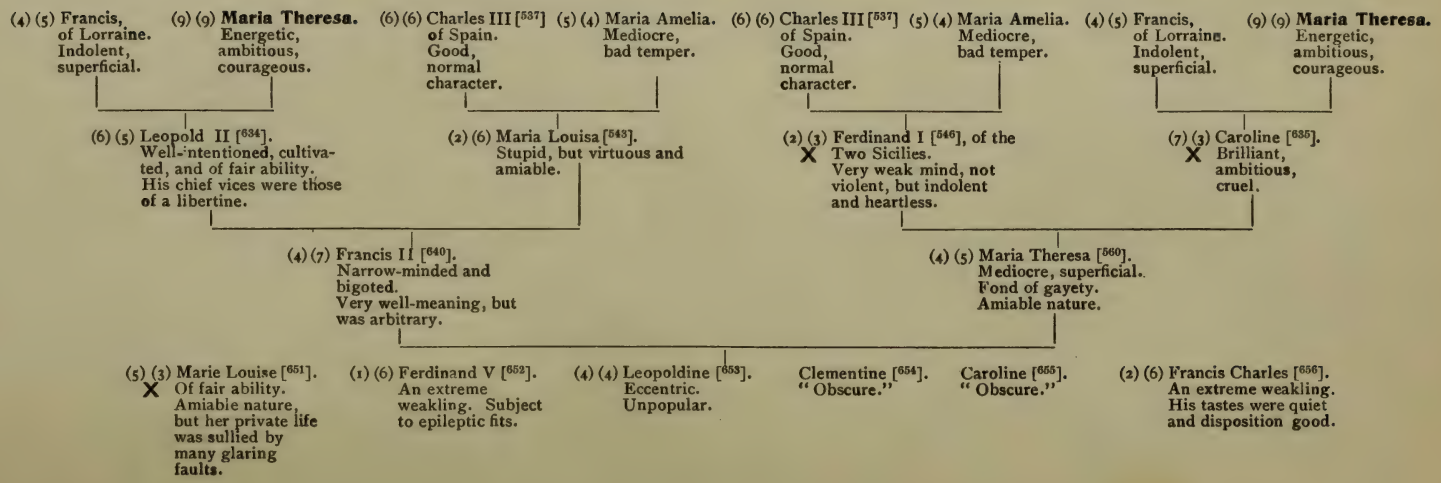

(7) (9) Leopold, of Lorraine. Good ability and excellent character.
Elizabeth, of Olreans.
(4) (5) Charles VI [622]. Indolent, poor ruler. Devoted to art and music.
(6) (8) Elizabeth, of Brunswick. Charming, amiable, religious, intellectual.
(2) (4) Philip V [386] of Spain. Magnanimous, but indolent and sensuous. Finally became insane.
(7) (4) Elizabeth Farnese. Crafty, ambitious.
(4) (7) Frederick Augustus II, of Saxony. Poor talents, but good character.
(4) (6) Marie Josepha [624]. Dau. of Joseph I, of Austria. Modest, amiable, good.
(4) (5) Francis, of Lorraine. Indolent, superficial, fond of pleasure.
(9) (9) Maria Theresa. Energetic, ambitious, courageous.
(6) (6) Charles III [537] of Spain. Good, normal character.
(5) (4) Maria Amelia. Mediocre. Bad temper.
(6) (5) Leopold II [643]. Well-intentioned, cultivated, and of fair ability. His chief vices were those of a libertine.
(2) (6) Maria Louisa [643]. Stupid, but virtuous and amiable. "Of very delicate health."
Thereas [639]. Married Anthony, Prince of Saxe. "Obscure."
(4) (7) Francis I [640] of Austria. Narrow-minded and bigoted. Very well-meaning, but was arbitrary.
(5) (7) Ferdinand III [641] of Tuscany. Of fair ability, mild and virtuous.
Maria Anne [642]. An abbess.
(9) (9) Charles [643]. Celebrated general. Excellent character.
(6) (6) Joseph [644]. Normal, well-balanced mind.
(4) (6) Marie Clementine [645]. Lovely and amiable.
(5) (7) Anthony [646]. Quiet and affable. Studious tastes.
(6) (?) John [647]. Popular, of good ability as a soldier, though not as a statesman. Excitable temper and loose morals.
(3) (5) Rainer [648]. Poor mentality. Good character.
(6) (6) Louis [649]. Stiff, upright, and pedantic. Learned in his tastes.
(6) (8) Rudolph [650]. Cultivated and charitable. His tastes were for art and science

among the children, except that John[647] was both hot-headed and something of a libertine, though not a distinctly bad man. This prince cannot, however, be viewed as unexpected, since his father's only vices were those of a libertine, and the aunt, Caroline[635], though unaccounted for in the former generation, was, it must be remembered, not praised for her virtues.

There is a slight error in this group, though it only amounts to the equivalent of the traits of one person. We might have expected three instead of one to have been decidedly inferior mentally, taking after their mother, who is supposed to carry twenty-five per cent of influence. Thus we have, as usual, less than ten per cent of errors.

Perhaps the mental and bodily weakness of Maria Louisa is to be traced in the appearance of convulsions and epilepsy, which afflicted so many of her children. The following quotation from Vehse is of interest in this connection. "Whereas the children of Maria Theresa were all of them healthy, the sons of Ludovica [Maria Louisa[543]] were afflicted with the hereditary evil of the Spanish Bourbons, convulsions and epilepsy. The Archduke John alone was free from it, and all the other sons suffered more or less from the terrible malady; the Archduke Charles very badly; most of all, the Archduke Rodolph. Ludovica's daughters were free, but the malady reappeared in the granddaughters, as, for instance, in the Archduchess-Co-Regent Caroline, of Saxony."

In the next generation, genius is removed to an uncle and a great-grandparent; while the old Spanish psychosis is introduced again in the personality of Ferdinand I[546], (2) (3), of the Two Sicilies, as a grandparent. The first two ascending generations are below mediocrity, and


(4) (5) Francis, of Lorraine. Indolent, superficial.
(9) (9) Maria Theresa. Energetic, ambitious, courageous.
(6) (6) Charles III [537] of Spain. Good, normal character.
(5) (4) Maria Amelia. Mediocre, bad temper.
(6) (6) Charles III [537] of Spain. Good, normal character.
(5) (4) Maria Amelia. Mediocre, bad temper.
(4) (5) Francis, of Lorraine. Indolent, superficial.
(9) (9) Maria Theresa. Energetic, ambitious, courageous.
(6) (5) Leopold II [634]. Well-intentioned, cultivated, and of fair ability. His chief vices were those of a libertine.
(2) (6) Maria Louisa [543]. Stupid, but virtuous and amiable.
(2) (3) Ferdinand I [546], of the Two Sicilies. Very weak mind, not violent, but indolent and heartless.
X
(7) (3) Caroline [635]. Brilliant, ambitious, cruel.
X
(4) (7) Francis II [640]. Narrow-minded and bigoted. Very well-meaning, but was arbitrary.
(4) (5) Maria Theresa [560]. Mediocre, superficial. Fond of gayety. Amiable nature.
(5) (3) Marie Louise [651]. Of fair ability. Amiable nature, but her private life was sullied by many glaring faults.
X
(1) (6) Ferdinand V [652]. An extreme weakling. Subject to epileptic fits.
(4) (4) Leopoldine [653]. Eccentric. Unpopular.
Clementine [654]. "Obscure."
Caroline [655]. "Obscure."
(2) (6) Francis Charles [656]. An extreme weakling. His tastes were quiet and disposition good.

we have two grandparents accounted as bad. This generation makes the poor showing that we might expect. The ancient psychosis or mental weakness appeared in full force in both the sons, one of whom was also afflicted with epilepsy.

Both Ferdinand[652] and Francis Charles[656] were mentally unfit to rule, and in turn abdicated to Francis Joseph the present emperor, whose fortitude and ability stand out in sharp contrast with his two predecessors. But it is to be feared that misfortunes have not ceased to befall the ancient house of Hapsburg, and in 1889 the mysterious death of Rudolph, eldest son of Francis Joseph, added another chapter to the tragedies which of late have cursed several branches of this august family. In a short time after Rudolph's death, it became generally considered that this cultivated, and in many ways estimable prince, had, in company with his mistress, killed himself with his own hand.

In reviewing the history of the Hapsburgs, one sees the original strength at first polluted by the insanity of the Spanish house, which psychosis was in turn eliminated by the Bavaria marriages, causing mediocrity to prevail, until the exceptionally intellectual Magdalene Theresa started a new center of brilliancy in Joseph I and **Maria Theresa.** The psychosis became virtually eliminated during this period. During the second or Hapsburg-Lorraine division, mental soundness and a high average was maintained for one generation, which was reduced to mediocrity in the next, the Archduke **Charles**[643] alone possessing the genius of **Maria Theresa.** In this same generation crept in the mental disease of the Spanish Bourbons, which, after a second marriage with the same

stock, produced the imbeciles Ferdinand V[652] and Francis Charles[656].

Aside from the present emperor, Francis Joseph, the only important Hapsburg who has lived during the last generation was the Archduke Albert (see portrait opp. p. 195), who, during the Italian wars of 1866, won signal victories, and was rewarded by promotion to commander-in-chief of the army. He was also the author of a work, "Responsibility in War," which attracted much attention.* This last illustrious Hapsburg was a son of the Archduke **Charles**[643], who, it should be remembered, was the only offspring of Leopold II to inherit the genius of **Maria Theresa.** Thus, intellectually, the variations up and down the scale that are shown us by the Hapsburgs are virtually in perfect accord with heredity.

With regard to moral qualities, there are one or two exceptions, though not enough to introduce more than five per cent of error. Among the seventy-four persons, there were only three in grade (3) for virtues, and none in (1) or (2). To be assured that this is in full keeping with heredity, one needs but to glance over the pedigrees, looking for the cross-mark (x) which indicates a grade as low as (3) for virtues. He will find, among all the ancestors, but four with the cross against them. This is, of course, a remarkably clean showing. The offspring balance the pedigrees, and the pedigree the offspring. In fact, we have but two exceptions among seventy-four. These are Marie Amelia[633] and Caroline[635], whose bad traits remain unaccounted for. Thus, on neither the intellectual nor the moral side is there more than five per cent of error.

* Lippincott's Biog. Dict.

FERDINAND III, EMPEROR [611].

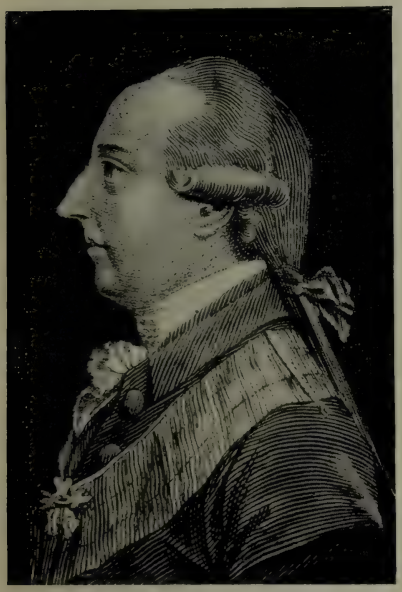
MARIA [629],
Married Ferdinand III of Austria, daughter of Philip III of Spain.

LEOPOLD WILLIAM [614],
Son of Ferdinand II.

FERDINAND IV, EMPEROR,
Son of Ferdinand III, Born 1633, died 1654.

FRANCIS I, EMPEROR [627],
Consort of Maria Theresa.

MARIA THERESA, EMPRESS [626].



JOSEPH II OF AUSTRIA [629].

CAROLINE [635],
Of the Two Sicilies.

The Hapsburg Lip

In tracing the facial peculiarities of the three families of Spain, France, and Austria, the great, swollen under lip of the Hapsburgs offers such a distinct feature that other traits of physiognomy may as well be neglected. This swollen, protruding lip was in the sixteenth century, in its original type, usually combined with a long, heavy under jaw, as one sees in the Emperor Charles V[514]. Later the jaw became more nearly normal, though the lip still persisted, and can be traced, with its varying degrees of intensification, through no less than eighteen generations, coming out in at least seventy of the various descendants.

Its first appearance, according to history, was in Cymburga, who was born in the last part of the fourteenth century, and became the wife of Ernest, the second patriarch of the house of Hapsburg.* In its latest manifestation it appears at the present day with diminished strength and modified form in the young king of Spain. This is a remarkable instance of the force of heredity in perpetuating a physical trait, and has been thought to be an example of prepotency, the male line being able to transmit a deeply rooted peculiarity, the features from the maternal side having no influence in counteracting it.

As an example of prepotency, the Hapsburg lip was cited by Darwin.† To quote his words:

"It would appear that in certain families some one ancestor and after him others in the same family must

* Coxe, "Austria," 1820, vol. i, p. 297.

† Darwin, "Animals and Plants," 1868, vol. ii, p. 65.

have had great power in transmitting their likeness through the male line; for we cannot otherwise understand how the same features should so often be transmitted after marriage with various females as has been the case with the Austrian emperors."

The same idea as the above is expressed by Strahan ("Marriage and Disease," p. 64). As a matter of fact, this feature, the big lip, was maintained and transmitted in no more remarkable way than the insanity was, and for the same reason, namely — intermarriages in their own family, and time and time again the selection of those who exhibited the feature rather than those who did not.

In almost every generation there were some who showed the peculiar lip, and there were always some who did not inherit it in any degree at all, and this is also paralleled by the mental abnormality. Therefore, since an increasing number in each successive generation were free from the peculiarity, the average of all descendants in each generation would give a diminution of the quality in question, and we have not a prepotency, but merely what we might expect were the features transmitted in the same way as the mental and moral qualities.

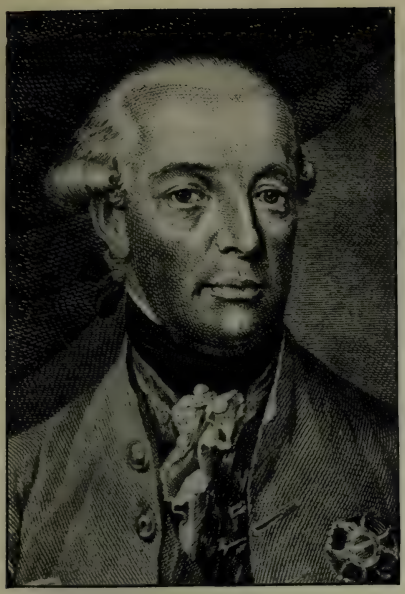
The following is a list in each generation of those who exhibited this peculiarity. A study of the charts of descent shows that those inheriting the "lip" were the persons who were repeatedly chosen as the progenitors of the following generations. At the same time, there were at least as many more whose lips were in no way peculiar, but these were almost never the ones *selected* to become direct ancestors of the ruling houses of Austria, Spain, and France. They are graded in the following classes:

MARIA CHRISTINA [630],
Sister of Marie Antoinette of France.

MARIA JOSEPHA [624],
Married Augustus of Saxony.

FERDINAND III OF TUSCANY [641],
Son of Leopold II.

MAXIMILIAN [637],
Son of Maria Theresa.



LEOPOLD II, EMPEROR [634]

MARIA LOUISA [543],
Daughter of Charles III of Spain, married Leopold II of Austria.

MARIA ANNE [642],
Daughter of Leopold II.

MARY [33],
Daughter of George III (see Hanover).

slight, *marked*, and *very marked*. An asterisk is placed beside those whose portraits are in this book.

In the lists below we see the proportionate appearance of this feature, for each generation in Spain, France, and Austria. In a certain number of persons the trait was absent. In certain whole "fraternities" it failed to appear at all. Why this was so, is not so far to seek, if we pay a little attention to the immediate ancestry. It cannot be claimed that these lists are absolutely complete or correct. Portraits of some members are unknown, unobtainable, or of doubtful authenticity. Still, they stand for what they are worth, and, as far as the rough outline of such a strange peculiarity as this is concerned, there can be no doubt but that they approach near enough to the truth. Thanks to the kindness of Count Theodor Zichy, Austrian ambassador in Münich, who owns one of the largest and most carefully selected collections of engravings of royalty, I have been able to place on record the facial outlines of a number of individuals, whose actual portraits I have been unable to secure for my own collection.

Spain, 23 Examples

(For the first four generations, see Austria.)

Fifth generation; children of Philip and Joanna the Mad.
*Charles V, Emperor[514], marked.
Ferdinand I, of Austria[515], marked.
*Mary, Queen of Hungary[516], marked.
Catherine, Queen of Portugal[517], absent.

Sixth generation, children of [514].
*Philip II, of Spain[518], marked.
*Mary[519], m. Maximilian II, of Austria, very marked.
*Joanna[520], absent.
Margaret[521], absent.
(Here two resemble the father and two the mother.)

Seventh generation, children of [518].
Don Carlos[523], slight.
*Isabella[524], slight.
Catherine[525], absent.
*Philip III[526], marked.
(Here the "lip" is marked in Philip III and not in the other children. He alone was a child of the fourth marriage of Philip II with Anne[594], who had the "lip," and was, moreover, inbred from those who had it.)

Eighth generation, children of [526].
*Anne[527], absent. (See France.)
*Philip IV[528], very marked.
*Maria[529], slight.
Charles[530], marked.
*Ferdinand[531], marked.
(Here again the mother was from the house of Austria, whose father[592], as well as so many others, had the Hapsburg type.)

* Portrait in this volume.

Ninth generation, children of [528].

Balthazar[532], slight.

*Maria Theresa[533], wife of Louis XIV, of France, absent.

Margaret[534], marked.

*Charles II, of Spain[535], very marked.

(The last two children had as a mother, a daughter of *Ferdinand III, of Austria. The first two did not. Thus again inbreeding accounts for the persistence. This ends the Hapsburg dynasty in Spain.)

Eleventh generation, grandchildren of [533].

*Philip V, of Spain[386], slight.

(The ancestors of Philip V are found under France, where there is little evidence of the "lip," among the close relations.)

Twelfth generation, children of [386].

*Ferdinand VI[536], slight.

*Charles III, of Spain[537], marked.

*Philip of Parma[539], slight.

(Here the perpetuation was in part due to Elizabeth Farnese, mother of the last two. She had the Hapsburg "lip," inherited in the twelfth generation through *Charles V.)

Thirteenth generation, children of [537].

*Maria Louisa[543], slight. (See Austria.)

*Charles IV, of Spain[545], slight.

*Ferdinand I, of the Two Sicilies[546], absent.

(The diminution of the peculiarity was due to outside stock.)

Fourteenth generation, children of [545].

Charlotte[549], absent.

Maria Louisa[550], absent.

*Ferdinand VII[551], marked.

*Don Carlos[552], marked.

*Isabella[553], absent.

Fourteenth generation, children of [546].

*Maria Theresa[560], absent.

*Francis[561], absent.

*Marie Amelia[563], absent.

* Portrait in this volume.

Fifteenth, sixteenth, and seventeenth generations. It was now practically absent in the Spanish branches, as selection no longer maintained the type.

Eighteenth generation.

Alfonso XIII, present king of Spain, marked.

(This is an inheritance from his mother and the Austrian Hapsburgs, where it is still now and then in full force.)

France, 7 Examples

Seventh generation.

Marie de Medici, wife of Henry IV, of France, slight.

(Cosimo de Medici, her paternal ancestor, also had a large lip, and Henry IV himself happened to have a face of the Hapsburg type, though not descended from them.)

Eighth generation, children of Henry IV and Marie de Medici.

*Louis XIII, of France[374], marked.

Ninth generation, children of Louis XIII.

*Louis XIV[379], absent.

*Philip I, of Orleans[380], absent.

Tenth generation, children of Louis XIV, absent.

Eleventh generation, children of the Dauphin.

*Louis[585], absent.

*Philip V, of Spain[386], slight.

Charles[387], slight.

Twelfth generation, children of[385].

*Louis XV[388], slight.

(The "lip" virtually disappeared in France, and this corresponds with the blood.)

Thirteenth generation, children of Louis XV.

*Elizabeth Louise[389], Duchess of Parma, marked.

Fourteenth generation.

*Charles X[397], slight.

* Portrait in this volume.

Austria, 31 *Examples*

First generation.

Cymburga, died in the early part of the fifteenth century, marked. (According to history.)

Second generation.

Frederick III, 1415–1493, marked. (Portrait in National Museum, Münich.)

Third generation.

*Maximilian I[510], absent.

Sixth generation, children of Ferdinand I[515] (see Spain).

*Maximilian II[583], slight.
Ferdinand[585], marked.
Mary[586], very slight.
*Charles[592], marked.
*Joanna[593], absent.

Seventh generation, children of Maximilian II[583].

Anne[594], marked.
Rudolph[595], marked.
*Ernest[596], marked.
*Elizabeth[597], absent.
Matthias[598], marked.
Albert[600], marked.

(Here the perpetuation is to be expected, as their mother was Mary[519], daughter of *Charles V. Both parents and both grandfathers were of the Hapsburg type.)

Seventh generation, children of Charles[592].

Marie Christine[602], marked.
*Ferdinand II[603], marked.
Eleanor[604], slight.
Leopold[607], marked.
Charles[610], slight.

(Here all resemble the father.)

* Portrait in this volume.

Eighth generation, children of Ferdinand II.
*Ferdinand III[611], slight.
Maria Anne[612], slight.
*Leopold William[614], absent.
(Their mother, Maria Anne, had thick lips.)

Ninth generation, children of Ferdinand III.
*Ferdinand IV, slight.
*Leopold I[616], very marked.
Eleanor[617], marked.
(The first of the above had, as a mother,* Maria[529], daughter of Philip III, of Spain. The mother of the other two, Eleanor of Mantua, also had the Hapsburg lip. Zichy collection.)

Tenth generation, children of Leopold I.
Mary (Antonie), marked. (Halle's collection, Münich.)
Joseph I[619], absent.
Mary Elizabeth[620], absent.
Mary Anne[621], absent.
Charles VI[622], absent.
Magdalene[623], absent.
(The rather abrupt absence of "lip" among the last five is due to the Palatine blood in Leopold's third marriage. The insanity was also removed from the Austrian house at the same time.)

Eleventh generation, absent. (Due to selection and to outside blood.)

Twelfth generation, children of *Maria Theresa and *Francis, of Lorraine, absent. (Again evidently due to selection. The psychosis was also eliminated.)
Thirteenth generation, children of Leopold II[634].
*Francis II[640], absent.
*Ferdinand[641], absent.
*Maria Anne[642], slight.
*Charles[643], marked.
*Joseph[644], absent.

* Portrait in this volume.

FRANCIS II, EMPEROR [640].

JOSEPH [644].
Son of Leopold II.

RAINER [648],
Son of Leopold II.

FERDINAND V (I) OF AUSTRIA [652].

LEWIS [649],
Son of Leopold II.

CHARLES [643],
Celebrated general of the Napoleonic wars.

FRANCIS JOSEPH,
Present Emperor, when young.

ALBERT, BORN 1817, DIED 1896.
Son of Charles [643].

John[647], absent.
*Rainer[648], marked.
*Lewis[649], marked.

(Here some resembled the father and some the mother in whom the "lip" was present. In Charles[643] and Lewis[649] it seems to be a true reversion to the extreme type of Leopold I. Also all the sons but one were troubled with epilepsy and convulsions.)

Fourteenth generation, children of Francis II[640].
Marie Louise[651], absent.
*Ferdinand V[652], b. 1793, marked.

Fourteenth generation, children of Charles[643].
Theresa, 1816–1867, absent.
*Albert, b. 1817–1896, very marked.
Frederick, 1821–1847, slight.

Fifteenth generation, children of [652].
*Francis Joseph, present emperor, marked. (Early portraits.)

Fifteenth generation, children of Charles, son of Charles[643].
Marie Christina, present Queen of Spain, marked.

Sixteenth generation, children of Francis Joseph.
Marie Valerie, born in 1868, marked.

Other Countries, 9 Examples

Seventh generation.
Anne, d. of Ferdinand[585], of Austria, slight. (Portrait in Münich National Museum.)
Sebastian, King of Portugal, marked.†

Ninth generation.
Cosimo III de Medici, marked.
Ferdinand Marie, of Bavaria, marked.
Maximilian Philip, of Bavaria, marked.

* Portrait in this volume.

† See Stephen's "Story of Portugal," p. 242.

Eleventh generation.
Charles Albert, of Bavaria, 1697–1745, slight.
Charles Emanuel III, of Savoy, marked.

Twelfth generation.
Marie Anne, of Bavaria, wife of Frederick Christian, of Saxony, marked.

Sixteenth generation.
Peter II, of Portugal and Brazil, b. 1825, grandson of Francis II, of Austria, marked.

Besides Spain, France, and Austria, we meet with the Hapsburg "lip" in various other families, especially in Bavaria. A number are collected and given above, to swell the lists and show how a peculiarity may persist through many generations, even when crossed with different stocks. It must, however, be remembered that there were always many free from the peculiarity, representing the normal, and that probably nowhere did the freak persist any more than might be expected from the "Law of Ancestral Heredity," providing, of course, that averages be made including all the descendants.

Thus we see a tangible physical trait, avowedly due to heredity, obeying the same principle as the mental and moral qualities, tending, on the whole, to become eliminated as time went on, still skipping about, however, and occasionally reappearing with almost equal force in those who inherited it at all. It was not perpetuated to any great extent, except in the Austrian and Spanish families, and here alone was there any considerable inbreeding.

I have examined the portraits of some three hundred other members of the royal families, and find the same principles evident — that one sees strong general facial

resemblance usually only among the closely related, but that striking peculiarities may jump a generation or two, and then reappear in some of the descendants. Also one sees that general blends are not common, but that each child tends to "favor" one or the other of its parents, or, more rarely, a distant ancestor.

The psychic grades for the Hapsburgs are based on all the combined and averaged opinions of the following: Biog. Univers; Allgemeine deutsche Biog.; Lippincott's; Wurtzbach, Lexikon; Coxe, "House of Austria," by index; Wraxall; Vehse, "Court of Austria"; Orsi; Stillman, "Union of Italy"; Colletta, "Hist. Naples"; Wertheimer, "Frauen Kaisers Franz"; J. F. Bright, "Maria Theresia"; Ency. Britannica. *See Appendix.*

CHAPTER XII

Portugal

[657] — [741]

A. Its Rise to World Power. B. Its Decline.

The early history of Portugal, like that of Spain, is largely the record of the careers of its hero-kings, of their brave conquests against the infidels, their stern justice, and almost constant aggrandizement from generation to generation, in their steady curtailment of the power of the nobles.

These peninsular monarchies present a certain parallelism in which they furnish some curious facts of interest in the philosophical discussion of causation in history. It can be shown that, for nearly a thousand years, the commercial and industrial progress made by both Spain and Portugal has been directly traceable to the character of its chief heads of state. In other words, we find natural advance under able and vigorous rulers, while under weak sovereigns we find decline. To prove this last statement true in the case of Portugal, we need but prepare a list of the kings or regents — with their characteristics and mental and moral grades subjoined — and then in a parallel column, note the advance or decline of the country. In the following list, we can see how closely

the ability of the rulers is reflected in the condition of the lands over which they governed. The moral character seems to have been of less significance.*

Characteristics of Ruler	Condition of Country
(8) (8) Henry of Burgundy[657]. Count of Portugal. Brave, brilliant, and enterprising.	1094–1114. Founded the family prestige.
(8) (3) Theresa. (Regent.) X Very able and accomplished, but her character was bad. She was violent and passionate.	1114–1139. Dominions were built up and vastly strengthened.
(9) (5) **Alfonso I**[658]. Great warrior and founder of the Kingdom of Portugal. "One of the heroes of the Middle Ages."	1139–1185. Portugal founded as a kingdom, and territories expanded.
(7) (5) Sancho I[662]. Able warrior and administrator. Violent temper.	1185–1211. Further advance, through internal improvements.
(6) (4) Alfonso II[667]. Able and vigorous, but harsh and tyrannical.	1211–1223. Financial gains.
(4) (4) Sancho II[672]. Weak and lazy.	1223–1245. Intrigues, quarrels, and decline.
(7) (3) Alfonso III[673]. X "The Wise." A great warrior and statesman, but an unprincipled tyrant.	1245–1279. Prosperity.

* I am at present engaged in carrying forward a similar research to include all countries of Europe. Every effort is being made to eliminate, as far as possible, the personal equation and render the work both quantitative and objective. In the coming publication I expect to describe in detail the methods of work, and hope to measure mathematically the influence of kings in different countries and during various epochs of modern history prior to the nineteenth century.

Characteristics of Ruler	Condition of Country
(9) (5) **Dennis**[675]. Called "the Laborer." Great abilities. Ardent, sensuous, somewhat cruel. Also literary, and was a poet.	1279–1325. Country made great advances, especially in agriculture and administration of justice.
(7) (3) Alfonso IV[682]. X "The Brave." Able, cruel, and tyrannical.	1325–1357. Progress, especially against the infidels.
(7) (5) Peter the Rigorous[684]. Wise, despotic, and severely just ruler.	1357–1367. Short reign, commercial treaty with England.
(3) (3) Ferdinand I[685]. X Weak, frivolous, and dishonorable.	1367–1383. Decline. Lisbon besieged. Portugal ravaged.
(10) (8) **John I**[688]. One of the greatest and best of all royalty. A long career of remarkable achievements.	1384–1433. Portugal greatly developed. Beginnings of expansion beyond the seas.
(7) (8) Edward[689]. Of great natural ability. Moderate and enlightened in his views. Literary tastes.	1433–1438. A short and disastrous reign.
(8) (7) Peter[690]. (Regent.) Brilliant qualities. Excellent character. Liberal, accomplished.	1438–1446. Progress.
(4) (4) Alfonso V[695]. Weak, and had little practical wisdom.	1446–1481. Country declined. Finances were wasted.
(8) (8) John II[700]. Called "the Perfect." A great king.	1481–1495. Marked increase in trade and prestige.
(5) (7) Emanuel[703]. Called "the Fortunate." A weak and mediocre character.	1495–1521. Portugal's greatest days.

Characteristics of Ruler	Condition of Country
(3) (4) John III[704]. A narrow and unenlightened mind.	1521–1557. Territorial increase and national supremacy maintained, but the germs of decay were beginning to show themselves. Financial troubles. Inquisition established.
(7) (5) Catherine, of Spain[517]. (Regent.) Intellectual and energetic. Bigoted and unpopular.	1557–1562. Conditions remained about the same.
(2) (2) Cardinal Henry[709]. X (Regent.) A vain, weak, and mean character.	1562–1568. Decay.
(3) (5) Sebastian. Ambitious, adventurous, rash, and bigoted. Tyrannical, melancholic, an unbalanced and disordered mind.	1568–1578. Disastrous war in Africa. Further decay in national strength.
(2) (2) Cardinal Henry[709]. X A vain, weak, and mean character. He was now, furthermore, old and dying.	1578–1580. Country in turmoil and corruption.

Sixty Years' Captivity.

Portugal under Spanish rule. Disaster for the country. The people impoverished.

(5) (2) Philip II[518], of Spain. X Feeble judgment. Mean and wicked character.	1580–1598. Internal decay of Portugal continued, though its outward prestige remained about the same.
(2) (5) Philip III[520], of Spain. Indolent, weak-minded; tendency to melancholia.	1598–1621. Financial exhaustion, and mercantile decline in the East.
(5) (2) Philip IV[528], of Spain. X Lazy, weak, licentious. Literary tastes.	1621–1640. Disasters and discontent. Further financial and commercial decline.

Characteristics of Ruler	Condition of Country
House of Braganza.	
(4) (5) John IV[711]. Indolent and pleasure-loving. A negative character. (His remarkable queen, **Louisa de Guzman,** was the real head of affairs.)	1640–1656. Portugal's spirit reawakened. National defense and resistance were promoted.
(9) (6) **Louisa de Guzman.** (Regent.) Energetic and able. A remarkable woman.	1656–1662. Portugal's position somewhat strengthened.
(1) (1) Alfonso VI[713]. XAn imbecile, with uncontrollable vices and excesses.	1662–1668. A period of wars. The Portuguese, on the whole, successful. Internal affairs in a bad condition.
(5) (4) Peter II[714]. Ambitious, intriguing, unprincipled.	1668–1706. The country was strengthened in some ways, but declined in others. It remained unprosperous.
(5) (6) John V[718]. Good character, literary tastes. Superficial and extravagant.	1706–1750. Remained stagnant.
(5) (8) Joseph[721]. An excellent character. (Supported the great minister Pombal to whom the reforms were due.)	1750–1777. Reforms and internal improvements.
(4) (6) Maria I[723]. Good disposition, but weak intellect, and finally became insane. Ruled jointly with (3) (4) Peter III[721], her uncle and husband, a weakling.	1777–1788. Deplorable state of affairs again.
(3) (5) John VI[727]. (Regent and King.) Weak, suspicious, melancholic, eccentric.	1788–1826. Involved in the Napoleonic wars. Disintegration and disgrace.

Characteristics of Ruler	Condition of Country
(5) (6) Peter IV[730]. Good character; high temper, but excellent heart.	1826–1827. Short reign.
(4) (2) Miguel[372]. (Regent.) XExtremely violent and cruel.	1827–1834. A reign of terror. Darkest days for Portugal.
(5) (5) Maria II (da Gloria)[734]. A quiet, domestic character. Not remarkable in any traits.	1834–1853. Country involved in disastrous party struggles.
(6) (7) Ferdinand II. (Regent.) Popular. Literary and artistic tastes.	1853–1855. Agriculture, commerce, and literature revived.
(7) (10) Peter V[738]. Honest, liberal, self-sacrificing. Well-beloved.	1855–1861. Improvement continued.
(6) (7) Louis I[730]. Good character. Poetical, literary, and artistic tastes.	1861–1889. Prosperous and peaceful reign.
Charles I. Promises to be a good, though not a remarkably energetic or able king.	1889–. Within recent years, the country has improved in many ways. Finances are still in a bad condition. Much political discontent prevails.

A. Its Rise to World Power

The first three leaders, Henry, of Burgundy, Theresa, and **Alfonso** I, all of high ability (8) (8) and (9), may be regarded as the founders of Portugal's unity as a nation. During the formative period, and period of growth, up to the time of Portugal's apogee, it will be observed that only three weak and incompetent rulers sat upon the

throne. These were Sancho II (4), Ferdinand I (3), and Alfonso V (4). This is against thirteen able and vigorous kings, several of whom are in the highest grades. During the reign of each one of the three weak sovereigns, we find decline. Progress marks the reign of every strong king, with one single exception. It can be seen that the period of Edward, which occupied the five years following 1433, was one of disaster, in spite of the fact that the king himself possessed high capacity and character. Even this disaster may be traced to the royal family. It was due to the misdirected efforts of Ferdinand[694], a brother of the king, who instigated a war against the infidels in Africa; a campaign which brought only dire calamities on all concerned. In contrast with this stands the work of another brother of the king, **Prince Henry,** a man of very different and very superior intellectual capacity. Among the most important of Portugal's achievements were the circumnavigation of Africa and the beginning of Asiatic trade. Although **Prince Henry** never made any of the voyages himself, which led to the opening up of this great trade route, it is conceded by all that in his genius and perseverance are to be found both the initiation and completion of this important event in the history of the world.

Furthermore, in support of this theory of the importance of royalty, in the history of Portugal, it is to be remembered that under the greatest kings of all, **Alfonso I, Dennis, John I,** and John II, the little kingdom made her most substantial gains.

Having seen the influence of the great kings during the constructive period, we now come to Portugal's glorious days, in the reigns of Emanuel and John III, 1495–

1557. Here we do not find that the kings themselves were gifted. In fact, they were quite otherwise. The explanation is that the impetus already achieved was so great that for a time national degeneration did not begin, or at least did not show itself under the gloss of outward splendor. It was during the reign of John III, however, that the germs of decay began to work, and much of the subsequent decline is to be traced to his short-sighted and narrow policy.

The same is true, to a certain extent, of the government of Emanuel. He expelled the Jews from Portugal, "although they were the richest and most useful class of people in the kingdom;" and it was during the reign of John III that the fatal Inquisition was established, and corruption in India became rampant. As may be seen, the subsequent rulers of Portugal were little or nothing in character and capacity. I do not claim that the fall of Portugal was entirely due to the change in the quality of her rulers, but I do claim that all, or nearly all, *may* be explained on purely Darwinian principles, as a question of race, and naturally inherited ability, due to selection alone.

At this period of the country's history, a great depopulation set in. The most energetic and vigorous went out to the colonies, and either died here, or intermarried with the natives and never returned. Besides this, slaves were imported from Africa into Portugal in such numbers that, "even in Lisbon itself, they outnumbered the freemen, by the middle of the sixteenth century." These biological factors, in connection with weak rulers (whose weaknesses were due to heredity), are themselves sufficient to account for Portugal's decline. It is untenable to

consider that the wealth and power itself produced disintegration, as is so often assumed by those who contend that all nations, like families, degenerate, from the effects of pomp and luxury.

B. Decline

Beginning with the reign of Cardinal Henry, in 1562, and concluding with the advent of Ferdinand II, of the house of Saxe-Gotha, 1853, we deal with an era of almost steady national consumption.

During this period there were eighteen rulers, fourteen of whom were weak or incapable. Only one, **Louisa de Guzman,** was a high-grade personage. She was in power for but six years, 1656–1662. Her influence, however, had always been great during the life of her husband; and the revolution of 1640, which threw off from Portugal the yoke of Spain, was largely brought about through her leadership.

In only one of the eighteen reigns do we find a condition of affairs other than might be expected from the qualities of the ruler. This was during the reign of Joseph, 1750–1777, when great and active reforms were instituted. This was partially due to the good character of the king. He had the sense to appoint a very able man, Pombal, to the post of chief minister, and to this sole shining figure in the gallery of Portuguese statesmen, the internal reforms were due. With this single exception, Portugal has proved herself totally incapable of producing any men to whom, in years of peril, she could turn for a guiding hand. If the needs of the time call forth Washingtons, Grants, and Bismarcks, why have none come forward in Portugal? It has been the same

in Spain, and was for many years the same in modern Italy.

With the change in blood brought about in the marriage of Maria da Gloria, we find the country doing somewhat better under the liberality and enlightenment of the family of Saxe-Coburg-Gotha.

Thus, for forty reigns, we observe but four exceptions to the parallelism between the condition of the country and the mental characteristics of the kings. Such a series is, of course, out of the possibilities of chance coincidence. What it really shows more than anything else, is the relative low ability of the nobles and the people.

For men will always get what they desire, and at the same time have the ability to obtain.

How different is the story of Portugal from that of England! From a despicable and vicious John, the nobles demanded and obtained a Magna Charta. From tyrant Stuarts, England came forth freer than before, and under stupid Georges she expanded into the greatest power in the world.

Having thus shown the preponderating influence of the kings on the course of Portuguese history, it remains now to see how these great men were engendered, from whence came this remarkable line of sovereigns, at first strong, and then correspondingly weak.

A. The Rise to World Power

The father of the first of the line, Henry, of Burgundy, was himself of the house of Capet, a Frenchman by birth, and typical knight of the crusading period. Whether his abilities were a new variation, or a reversion to his great-grandfather, Hugh Capet, or largely the product of

the age in which he lived, in one particular case like his, we cannot say. That he was not much the result of the third supposition, is rendered probable from the fact that his talents were so well transmitted, something not to be expected in characteristics acquired from the environment.

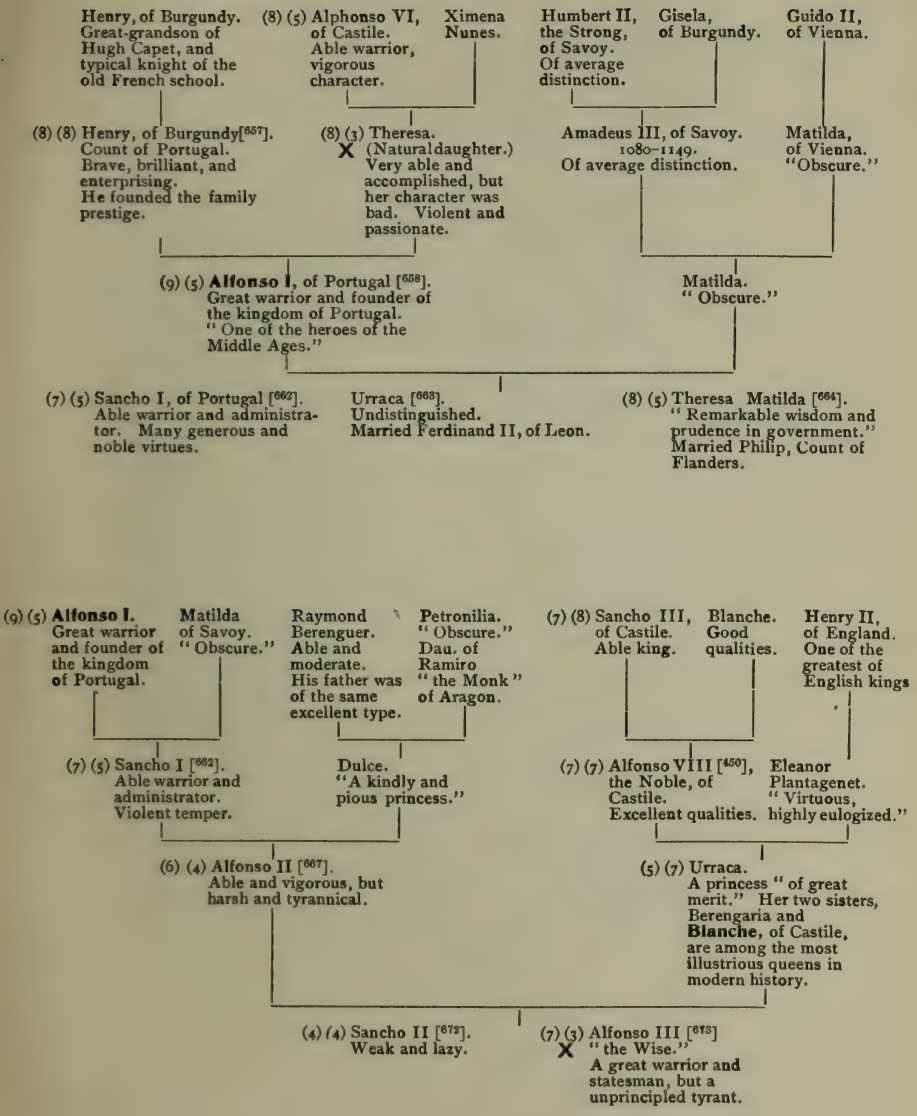
In the chart opposite, we see that his son, Henry, of Burgundy[657], had a brilliant queen, who was herself the daughter of a great king of Castile. From this union sprang **Alfonso I,** the founder of Portugal. A glance at this chart and the next will show that none of the early kings of Portugal were really Portuguese in origin, as far as blood was concerned. We find much of the best of old Spain, as well as France, Savoy, England, and Austria, represented in the pedigree, but nothing from Portugal itself.

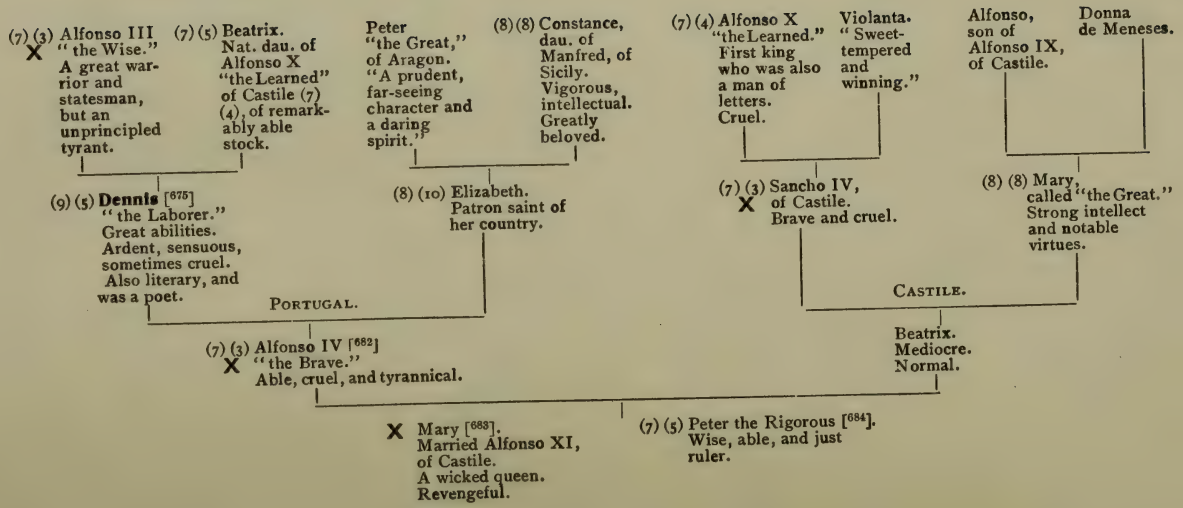
The marriage of **Alfonso I** would tend to reduce to mediocrity the stock already brilliant. Still, fortunately, two of the three children, including the next king, Sancho I, took from the strong side of the pedigree.

Dulce, the mother of the next generation, was a queen with good qualities, and a daughter of very excellent stock. The children, numbered [665] to [671], give us no remarkable names, though they average above the mean.

Alfonso II[667], the son who became king, was well able to cope with the times, and his marriage was a decidedly strong one. He had but two adult children, the oldest being the first weak king of Portugal. Weak kings stood little chance of remaining in power, and Sancho II[672] was deposed by his more vigorous brother, Alfonso III[673].

Here the line continues from its strongest stem, and is


Henry, of Burgundy. Great-grandson of Hugh Capet, and typical knight of the old French school.
(8) (5) Alphonso VI, of Castile. Able warrior, vigorous character.
Ximena Nunes.
Humbert II, the Strong, of Savoy. Of average distinction.
Gisela, of Burgundy.
Guido II, of Vienna.
(8) (8) Henry, of Burgundy[657]. Count of Portugal. Brave, brilliant, and enterprising. He founded the family prestige.
(8) (3) Theresa. X (Naturaldaughter.) Very able and accomplished, but her character was bad. Violent and passionate.
Amadeus III, of Savoy. 1080–1149. Of average distinction.
Matilda, of Vienna. "Obscure."
(9) (5) Alfonso I, of Portugal [658]. Great warrior and founder of the kingdom of Portugal. "One of the heroes of the Middle Ages."
Matilda. "Obscure."
(7) (5) Sancho I, of Portugal [662]. Able warrior and administrator. Many generous and noble virtues.
Urraca [663]. Undistinguished. Married Ferdinand II, of Leon.
(8) (5) Theresa Matilda [664]. "Remarkable wisdom and prudence in government." Married Philip, Count of Flanders.
(9) (5) Alfonso I. Great warrior and founder of the kingdom of Portugal.
Matilda of Savoy. "Obscure."
Raymond Berenguer. Able and moderate. His father was of the same excellent type.
Petronilia. "Obscure." Dau. of Ramiro "the Monk" of Aragon.
(7) (8) Sancho III, of Castile. Able king.
Blanche. Good qualities.
Henry II, of England. One of the greatest of English kings
(7) (5) Sancho I [662]. Able warrior and administrator. Violent temper.
Dulce. "A kindly and pious princess."
(7) (7) Alfonso VIII [450], the Noble, of Castile. Excellent qualities.
Eleanor Plantagenet. "Virtuous, highly eulogized."
(6) (4) Alfonso II [667]. Able and vigorous, but harsh and tyrannical.
(5) (7) Urraca. A princess "of great merit." Her two sisters, Berengaria and Blanche, of Castile, are among the most illustrious queens in modern history.
(4) (4) Sancho II [672]. Weak and lazy.
(7) (3) Alfonso III [673] X "the Wise." A great warrior and statesman, but a unprincipled tyrant.


(7) (3) Alfonso III "the Wise." A great warrior and statesman, but an unprincipled tyrant.
X
(7) (5) Beatrix. Nat. dau. of Alfonso X "the Learned" of Castile (7) (4), of remarkably able stock.
Peter "the Great," of Aragon. "A prudent, far-seeing character and a daring spirit."
(8) (8) Constance, dau. of Manfred, of Sicily. Vigorous, intellectual. Greatly beloved.
(7) (4) Alfonso X "the Learned." First king who was also a man of letters. Cruel.
Violanta. "Sweet-tempered and winning."
Alfonso, son of Alfonso IX, of Castile.
Donna de Meneses.
(9) (5) Dennis [675] "the Laborer." Great abilities. Ardent, sensuous, sometimes cruel. Also literary, and was a poet.
(8) (10) Elizabeth. Patron saint of her country.
(7) (3) Sancho IV, of Castile. Brave and cruel.
X
(8) (8) Mary, called "the Great." Strong intellect and notable virtues.
PORTUGAL.
CASTILE.
(7) (3) Alfonso IV [682] "the Brave." Able, cruel, and tyrannical.
X
Beatrix. Mediocre. Normal.
X Mary [683]. Married Alfonso XI, of Castile. A wicked queen. Revengeful.
(7) (5) Peter the Rigorous [684]. Wise, able, and just ruler.

strengthened by some of the ablest stock of Spain. Therefore, **Dennis**[675], the next king (see pedigree, opposite), one of seven children and a great promoter of Portugal's advance, is not unexpected. He was the only one of the seven in his own "fraternity" to rank in a high grade, and was probably a reversion on the exceptional stock so full of strength, and almost devoid of weakness.

Dennis himself married to bring in stock above the average, as the following chart shows; and in a family of many children we should undoubtedly have found some great genius.

There were, however, but two offspring, one mediocre and the other Alfonso IV[682], "the Brave," under whom Portugal made further progress, especially against the infidels.

The next pedigree formed on the marriage of Alfonso IV[682], like every one before it, contains many characters above the average of intellectual grades; and again out of two children we get one with marked ability, Peter the Rigorous (7) (5).

Among the four children of Peter the Rigorous[684], we find two mediocrities, — one weak son, Ferdinand I[685], and one extremely able, natural son, John I[688].

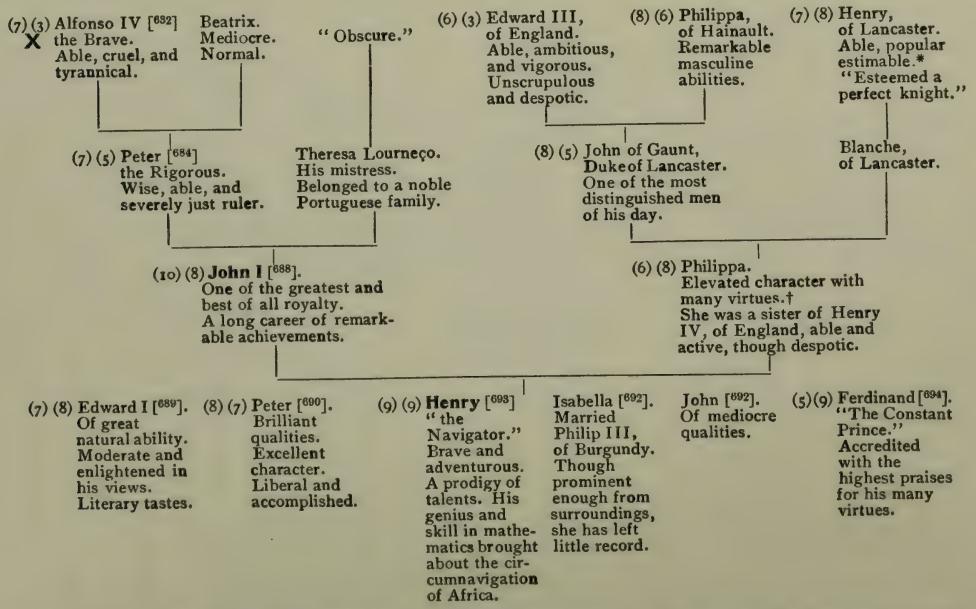
John I, called the Great, may best be considered a reversion to **Dennis**[675], or other very able ancestors. He was one of the greatest of all modern royalty. We see on the next chart another remarkable pedigree. His children had, on their mother's side, the best of the royal blood of England. Thus the great voyages and discoveries which were begun by **Henry the Navigator,** and which find their first cause in the ability and character of **Henry,** are in turn to be ascribed in part to England,

which furnished half the blood of **Henry.** Even as late as this, only a quarter of the stock of Portugal's royal family was from Portugal itself, and no native blood was introduced until **John I,** who was half Portuguese on his mother's side. All the kings were, of course, Portuguese in one sense, but not as regards ultimate origin of blood.

Besides **Henry,** Portugal was much indebted to his brilliant brother, Peter[690]. The eldest son, Edward[689], who became the next sovereign, was also a man of high ability, and an attractive personality from every point of view.

The marriage of Edward[689] with Eleanor, daughter of Ferdinand I, of Aragon, may be considered mediocre. Their son, Alfonso V, was one of the few weak kings in the early history of Portugal, but in his son, John II[700], called "the Perfect," was another very able king, to whom much is due in the construction of this dominion, at this time destined to take a foremost place among the powers of the world. He was certainly an instance of heredity, for his maternal grandfather was the already mentioned Peter[690], one of the brilliant sons of **John the Great.**

Thus ends the list of the great kings of Portugal. Parallel with the growth of the country, we find these eminent rulers. Parallel with their appearance, we find remarkably great pedigrees, and these individuals composing the pedigrees lived in all parts of Europe. Hence the ancestors themselves could not be the product of anything going on in Portugal. There were many others, at the time, belonging to European royalty, who were weak, but these did not happen to be the direct progenitors of the royal line of Portugal.


(7) (3) Alfonso IV [632] the Brave. Able, cruel, and tyrannical.
X
Beatrix. Mediocre. Normal.
"Obscure."
(6) (3) Edward III, of England. Able, ambitious, and vigorous. Unscrupulous and despotic.
(8) (6) Philippa, of Hainault. Remarkable masculine abilities.
(7) (8) Henry, of Lancaster. Able, popular estimable.* "Esteemed a perfect knight."
(7) (5) Peter [684] the Rigorous. Wise, able, and severely just ruler.
Theresa Lourneço. His mistress. Belonged to a noble Portuguese family.
(8) (5) John of Gaunt, Duke of Lancaster. One of the most distinguished men of his day.
Blanche, of Lancaster.
(10) (8) John I [688]. One of the greatest and best of all royalty. A long career of remarkable achievements.
(6) (8) Philippa. Elevated character with many virtues.† She was a sister of Henry IV, of England, able and active, though despotic.
(7) (8) Edward I [689]. Of great natural ability. Moderate and enlightened in his views. Literary tastes.
(8) (7) Peter [690]. Brilliant qualities. Excellent character. Liberal and accomplished.
(9) (9) Henry [693] "the Navigator." Brave and adventurous. A prodigy of talents. His genius and skill in mathematics brought about the circumnavigation of Africa.
Isabella [692]. Married Philip III, of Burgundy. Though prominent enough from surroundings, she has left little record.
John [692]. Of mediocre qualities.
(5) (9) Ferdinand [694]. "The Constant Prince." Accredited with the highest praises for his many virtues.

* Hume's "Spain," chap. xvii, and "Dict. of National Biography." † "Rainhas de Portugal," p. 258.

John II left no adult descendants. Emanuel[703], the next king, and his two sisters, were mediocrities, a fact to be expected, as the father was an "obscure" brother of Alfonso V, and their mother an "obscure" daughter of John[693], the mediocre and undistinguished son of **John I**[688]. Thus greatness was now remote.

Emanuel[703] married a daughter of Ferdinand and **Isabella,** of Aragon and Castile, so the next generation had at least two remarkable grandparents. Moreover, there were six children to reach maturity. We might expect one genius and one with mental unbalance to correspond to Joanna the Mad, their aunt; and Isabella, who was insane, the mother of the great **Isabella.** What we do find is given below.

(3) (4) John III [704]. A narrow and unenlightened mind.

(5) (7) Isabella [705]. Very attractive and virtuous. m. Charles V, of Spain.

(6) (6) Beatrix[706]. Normal.

(7) (8) Louis [707]. Excellent character. Adored for his many virtues.

Alfonso [708]. "Obscure."

(2) (2) Henry [709]. X Mean and base.

B. Decline

Unfortunately for Portugal, John III and Henry both came upon the throne, while Louis[707], who was the flower of the family, though he lived forty-nine years, died before his elder brother John. This "fraternity" does not give us exactly what we should expect. We might count here two exceptions. We do, however, find strong variations corresponding with the pedigree.

The next king, Sebastian, whose mind was unbalanced, was a clear enough case of heredity. Though his father, John, son of [704], who died young, was considered a

prince of the highest promise, his mother was of the tainted stock of Spain, a sister of Philip II of that country. Sebastian, moreover, had the Hapsburg "lip."

After this, Portugal came for sixty years under the dominion of Spain, and the characters of the three worthless Philips are accounted for in the chapter dealing with that country.

In the house of Braganza we start with John IV[711], mediocre and from mediocre stock. His queen, **Louisa de Guzman,** whose influence was paramount during this period, is unaccounted for by heredity, except as a mutation or new variety, since her stock was also "obscure." Three children were born from this union, none of whom equaled their mother.

Alfonso VI[713], the next king, an imbecile with uncontrollable vices and excesses, was undoubtedly such from a constitutional cause, though he does not appear an example of the ordinary course of heredity. His deficiencies are said to have been the result of a paralytic stroke received in early childhood.

The next generation, John V[715], and four others, were the children of Peter II[714], rather mediocre, and Maria Sophia, of Palatine. In John V we find a good normal character and nothing more. He married Marie Anne[621], a daughter of Leopold I, of Austria. On turning to Austria we find her a good character, though poorly endowed mentally, with the grades (4) (6). Her mother was of exceptional mental capacity, but, aside from this, the pedigree would not be strong.

There were but three children in the next generation: Barbara[720], Joseph[721], and Peter III[722]. Joseph (5) (8) proved an excellent type, while Peter III was a weak-

ling, and Barbara became insane, probably inherited from the house of Austria.

The next generation gives us three daughters of mediocre or of inferior capacity, and should not call for more than this, as their mother was a daughter of Philip V (2) (4), of Spain[386], whose stock was also poor. (See France.) The oldest daughter, Maria I[723], married her uncle, the weak Peter III[722]. This incestuous union certainly should produce no good results. There was but one adult offspring, John VI[727]. He was "weak, suspicious, melancholic, and eccentric," and did his fair share toward hastening the downfall of Portugal.

The next alliance drew in again the worst of the neurotic Spanish blood in Carlotta (5) (2)[549], a daughter of Charles IV, of Spain. The six children give us all the variations to be expected; two notoriously bad, and none with high intellectual gifts. The different characteristics of the children may be seen below.

(7) (6) Theresa [728]. Good character in many ways, but an intriguer.	(4) (8) Isabella [729]. Excellent character. Not gifted.	(5) (6) Peter IV [730]. Good character. High temper but excellent heart.
(6) (5) Francis [731]. Ambitious and haughty. An intriguer.	(4) (2) Miguel [632]. X Extremely violent and cruel.	(5) (3) Anne [733]. X "Notorious."

We thus see that Miguel[732], who had such a pernicious influence on his country's welfare, derived his character clearly by inheritance, and on his mother's side. Fortunately, Peter[730], whose characteristics were far better than Michael's, became the father of the next generation. Their mother was (4) (4) Leopoldine[653], daughter of Francis I, of Austria[640]. She was both "eccentric and unpopular," and the stock of Austria was not more than fairly good at this time. Of the four children, we might

expect nothing, which expectation is realized, except that the son (6) (10) Pedro II, of Brazil[737], deserves a place in the highest grade for moral qualities. The only chance to inherit such exceptional virtues would be from his great-uncle the **Archduke Charles,** of Austria[643], so it seems fairer to consider this part of Pedro's character unexpected.

The good characteristics of the remaining members of the house of Braganza are perfectly in line with the full inheritance of moral qualities. Maria II married Ferdinand, of Saxe-Coburg-Gotha, the family which I have so often referred to as the only one with a practically unsullied record, and, at the same time, a perfectly white pedigree. (Pedigree is always to be understood as meaning all the immediate ancestors both on the male and on the female sides.)

Maria II, though not brilliant, was a quiet and domestic princess. Ferdinand, who became regent for a short time after Maria's death, was a man of true Saxe-Coburg traits. He was a son of Ferdinand[55], a cousin of Prince Albert and a nephew of the excellent Leopold I[57], King of the Belgians. There is no doubt but that Saxe-Coburg blood saved Portugal from entire disintegration during the darkest days of her history. Thus the frightful Hapsburg-Bourbon psycho-neurosis has been eliminated from this little land, though it still exists in Austria and Spain. The present king of Portugal has, it is true, married a Bourbon, but the Orleans branch from which Queen Amelia springs has at this point a very good tone. She is a granddaughter of both excellent princes Ferdinand[418] and Anthony[423].

To summarize: The royal family of Portugal presents

but few exceptions to expected inheritance. (About four in eighty-five.) This is as true of the moral as of the mental qualities. In the earliest days, we find a few distinctly vicious characters, yet there were always a majority of quite the opposite type. Unworthy types seem to occur with about the same frequency all down the line, and do not diminish except in most recent generations, or in the fifteenth century, in the children of **John I**, both of which occurrences seem more the product of blood than of surrounding conditions. The early pedigrees were strong, and well above the average, and in these early pedigrees we see this vigor repeated again and again. The individuals who composed them resided in almost every country of Europe. The results of the pedigrees were the great kings. The great kings caused the progress. This theory all holds together in a perfectly logical way. If we took the contrary view, and argued that great opportunities produced the great kings, we should not in this step of reasoning know that we were wrong, but we could not then explain the third series of observed facts. We could not explain the pedigrees, for neither the men themselves, nor the events in which they individually lived, could have arranged the marriages of their ancestors of a hundred years previous.

The grades in this chapter are based on all the combined and averaged opinions from the following: Biog. Univers.; Lippincott's; Vapereau, "Dict. des Contemporaines"; McMurdo; Dunham, "Spain and Portugal"; Busk; La Clède; Fonseca, "Las Rainhas de Portugal"; Walton, "Revolutions"; H. M. Stephens; J. S. Alexander; Hubbard; W. Bollaert and H. Schäfer; Encyclop. Britannica. *See Appendix.*

CHAPTER XIII

Romanoffs in Russia Prior to 1762

[742] — [767]

From Feodor Romanoff (1550–1633) to Peter III (1728–62), includes six generations and twenty-six persons in the direct family. These twenty-six show the most remarkable variation in character and abilities.

Feodor[742], the first to be considered, was the greatest man in Russia in his day, and it was owing to *his* abilities and virtues that his son, Michael[743], was placed on the throne. Michael was prudent, mild, and virtuous, married a peasant woman of the same character, and was the father of Alexis[745], who, in turn, was very much like his parents. Alexis[745] married twice, both queens being beautiful peasant girls. The czars at this time chose their wives from a large number of their subjects. All the most charming girls in the kingdom were brought to the court for their sovereign's inspection, the most beautiful of all being selected and made legal queen. From both of these unions came epileptic children.

It seems impossible to trace the origin of this famous psychosis in the Romanoffs, as it probably arose in the obscure stock back of Alexis. From Alexis' first marriage were produced Feodor[749], imbecile; **Sophia**[748], extraordinary force of will, ambition, and high abilities; and Ivan[751], imbecile and epileptic. From the second marriage came **Peter the Great,** extraordinary will and

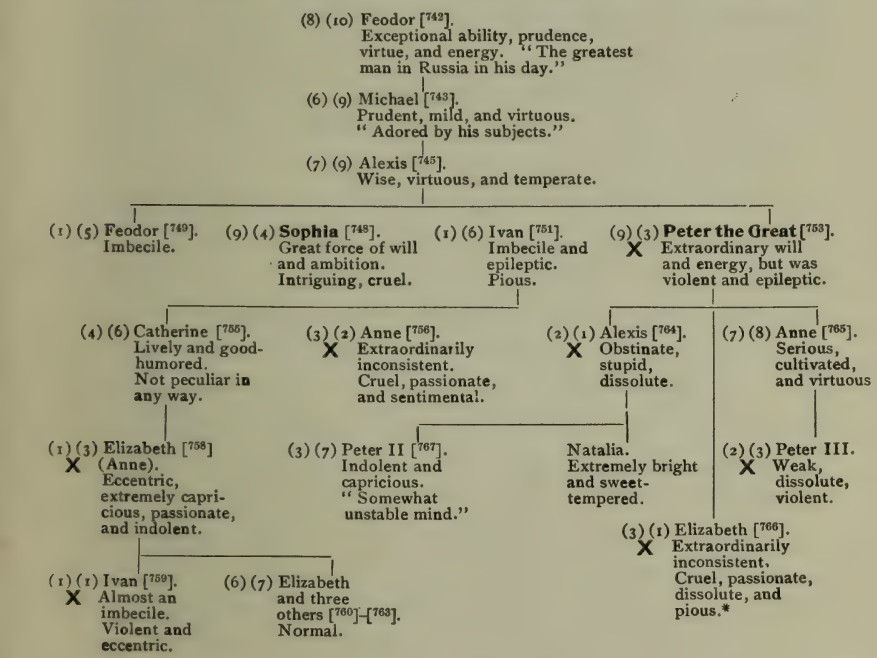
capacity, but violent and epileptic; and several other children who were not remarkable. The genius of **Peter the Great** and **Sophia** may have been a reversion to Feodor[742], their great-grandparent, or it may have been a manifestation of the psychosis, as Lombroso would say. On account of the very same ability already in some members as well as the evident psychosis, in others it does not seem necessary to consider them evidences of the insanity of genius, since the genius may have struck them from one source and the insanity from another. Those who consider the tyranny of the Russian czars a result of absolutism of the rulers should remember that just prior to the appearance of the degeneracy, there were three sovereigns who were in every way wise, mild, and virtuous, which is a similar argument to the citation that the "Age of Absolutism" in Denmark found mild and good-natured rulers.

Now from this time on we find among the fourteen not "obscure" who appear in the next three generations, six who have extremely bad characters; three of these are children, two are grandchildren, and one is a great-grandchild of **Peter the Great.** Thus in this arrangement we see the principle of heredity which calls for a closer resemblance among those more closely related in kin.

Of Ivan's children, Catharine[755] was as good as the Empress Anne[756] was "inconsistent, vindictive, cruel, passionate, and sentimental." Catharine married average stock, but her daughter, Anne[758], was "passionate, indolent, capricious, and weak." Anne[758] married the excellent but mediocre Anthony Ulric, of Brunswick, which family we have already seen to be resplendent with virtues and literary tastes, so that the next generation

brings one parent and three grandparents free from the taint.

We now get just what we might expect from heredity, in spite of the fact that the five children were all taken when infants and for political reasons imprisoned for thirty-six years. Ivan[759], the eldest, was almost an imbecile, and showed occasional symptoms of insanity.


(8) (10) Feodor [742]. Exceptional ability, prudence, virtue, and energy. "The greatest man in Russia in his day."
(6) (9) Michael [743]. Prudent, mild, and virtuous. "Adored by his subjects."
(7) (9) Alexis [745]. Wise, virtuous, and temperate.
(1) (5) Feodor [749]. Imbecile.
(9) (4) Sophia [748]. Great force of will and ambition. Intriguing, cruel.
(1) (6) Ivan [751]. Imbecile and epileptic. Pious.
(9) (3) Peter the Great [753]. X Extraordinary will and energy, but was violent and epileptic.
(4) (6) Catherine [755]. Lively and good-humored. Not peculiar in any way.
(3) (2) Anne [756]. X Extraordinarily inconsistent. Cruel, passionate, and sentimental.
(2) (1) Alexis [764]. X Obstinate, stupid, dissolute.
(7) (8) Anne [765]. Serious, cultivated, and virtuous
(1) (3) Elizabeth [758] X (Anne). Eccentric, extremely capricious, passionate, and indolent.
(3) (7) Peter II [767]. Indolent and capricious. "Somewhat unstable mind."
Natalia. Extremely bright and sweet-tempered.
(2) (3) Peter III. X Weak, dissolute, violent.
(3) (1) Elizabeth [766]. X Extraordinarily inconsistent. Cruel, passionate, dissolute, and pious.*
(1) (1) Ivan [759]. X Almost an imbecile. Violent and eccentric.
(6) (7) Elizabeth and three others [760]–[763]. Normal.

This imbecility might be attributed to the imprisonment, which was extremely severe, but the other four children help us out. The following is taken from Coxe, a very accurate historian:

"Elizabeth, the youngest sister, was a woman of high

* "[Intellect] better appreciated by the light of later discoveries." — Rambaud, "Hist. Russia," ii, 173.

spirit and elegant manners. On being released she wrote a letter of thanks to the empress so well expressed as to excite admiration how she could have obtained sufficient instruction during her long confinement."

The other children were mediocre and in no way peculiar. "They amuse themselves with reading, playing billiards and cards, riding and walking. They walk much about the town and in the environs, and drive out in carriages; the princes frequently ride, and particularly Alexis, who is very fond of that exercise, and said to be an expert. They not infrequently pay visits in the country and dine with the neighboring families." *

Thus among five children exposed to a very unusual environment from infancy, we find a result showing little influence other than should be expected from heredity. Three were mediocre, representing the majority of the strain; one was an imbecile, corresponding to the combined influence of his mother and great-grandfather, Ivan[751]; and one was spirited and cultivated in spite of it all, and rose very nearly as high as any of the immediate ancestors. Of course such remarkable circumstances must have modified the characters of the four normal children, to some slight extent at least; still, even these exceptional cases deviate very little from what is to be expected from the principles of heredity.

Alexis[764], **Peter the Great's** son by his first wife, Eudoxia Lapukhin, was a very poor specimen. "Never was the birth of any prince more unfortunate to himself, to his parents, and to his country. All persons, however, join in condemning the imprudence and obstinacy of Alexis, which seem to have warped his judgment and at

* Coxe, "Travels," vol. v, p. 19.

times to have transported him to a degree of insanity. Alexis was extremely dissolute, and preferred the company of the lower classes. When twenty-six, worn out by continual drunkenness, he demanded permission to retire to a convent, but changed his mind and escaped to Vienna." * He was retaken and tried. He died soon after, probably murdered by his father's orders; though some historians contend he died, as Peter claimed he did, by an apoplectic fit.

By **Peter's** second marriage with Catharine, he had two daughters, Elizabeth and Anne. They were as different as possible. Elizabeth[766], the notorious empress, was very inconsistent, being indolent, dissolute, cruel, and pious. Anne, on the contrary, was serious-minded, cultivated, and virtuous. The latter married Charles Frederick, Duke of Holstein, an inferior sort of man of undistinguished parentage; and the only son, Peter III, was as bad as the worst of them, being weak, dissolute, violent, and headstrong. Alexis[764], the imbecile son of **Peter the Great,** married Charlotte[787], an "angelic" daughter of the good house of Brunswick already referred to, and by this marriage we see two children, one good and one bad. Natalia, the daughter, was sweet-tempered and remarkably bright and energetic; while Peter, the son, who became Peter II[767], in spite of the best education "gave up all study and political work and confined himself to hunting and shooting." He had a "somewhat unstable mind," but his character showed none of the cruelty and degeneracy of some of the others of the family. Peter III married Catherine, of Anhalt-Zerbst, who became the notorious empress **Catherine II.**

* Bruce's "Memoirs," pp. 100–197.

As we do not know who was the father of Paul, owing to the licentiousness of **Catherine,** the remaining division of the so-called Romanoffs down to the present day had best be studied as another group. They will not be treated of in the present work.

The great variation in the characters of the early Romanoffs is better explained by the presence of the psycho-neurosis than by any other reason; for if we consider the rudeness of the times to be the cause, we cannot see just why the first three of the czars, Feodor, Michael, and Alexis, were so prudent, mild, and virtuous, or why the subsequent mental deformities appear more frequently in those closely related to the height of its manifestation in the generation of **Peter the Great**[753]. In modern Spain a condition similar from the heredity standpoint has been studied under several different environments in no way like that of early Russia, yet the variation in character in the royalty of modern Spain is quite as remarkable as that just considered. In Spain it is related to an inherited mental unbalance in just the same way as in Russia.

Authorities for this period: Lippincott's; Lévesque; Coxe, "Travels"; W. K. Kelly, "Hist. of Russia" (compiled from Karamsin, Tooke and Ségur); Bain, "Pupils of Peter the Great"; O. Browning's "Life of Peter the Great"; Manstein's "Memoirs"; Mardefeldt, "Dispatches," vol. xv, pp. 238–240; Rambaud; Ency. Britannica; K. Waliszewski. *See Appendix.*

CHAPTER XIV

Denmark

[768]—[803]

The royal house of Oldenburg from which the kings of Denmark are descended, covers, from Frederick II, d. 1588, to Frederick VII, d. 1863, three centuries and ten generations. Including in each generation not only the reigning sovereign, but also his brothers and sisters, the number of names brought into this family is thirty-six. In order to get the necessary material for heredity study, there have been added in each generation all the ancestors of every offspring back to the great-grandparents. Thus the number brought together in this group is raised by 132, or 168 represents the total.

With the exception of the first two kings, this period of Danish history covers what is known as the "Age of Absolutism," 1670–1848. A good idea of the sovereign rights at this time and the general characteristics of the rulers may be gathered from the following quotation:

"Although the Royal Law conferred so absolute a power on the king, a power such as was perhaps not vested in any other sovereign in Europe, the autocrats of the Oldenburg dynasty — good-natured, upright and not more than ordinarily gifted as they were — exercised the prerogative, on the whole, with moderation and leniency, and the country had often reason to be thankful for the advantages secured to it during this period, espe-

cially when, among the royal Councillors, were to be found men of talent and capacity." *

"Good-natured, upright, and not more than ordinarily gifted," is a fair estimate for our thirty-six members of the Oldenburg family taken as a whole. There are not more than three or four exceptions to this among them all. In other words, the Oldenburgs show no great mental and moral variations. Do the characteristics of the other 132, who, united with the male line, are the formers of the breed, warrant us in saying that this result is only what we might expect from the direct inheritance of the traits of these progenitors? It will be seen that the characteristics of these outsiders who represent the maternal lines amply bear out such a belief.

In the pedigree of the Oldenburgs there is no Hapsburg, Bourbon, or Romanoff insanity, or moral depravity. There is no Orange or Hohenzollern genius. In searching out the quality of the maternal blood as it was introduced all down the line, one finds no distinguished ancestry and few peculiar characters of any sort. Two of the queens had brilliant gifts of mind, one being also extremely unprincipled in her political schemes. Aside from this, there is little of interest in the ancestry. Frederick II[768], 1534–1588, was a headstrong and arbitrary ruler with too great a fondness for strong drink, but otherwise was not strange in any way and is not a striking figure in Danish history. His consort, Sophia, however, was a woman much praised for her intellectual eminence.† From this union sprang Christian IV[771], the idol of Danish history and the only sovereign who ranks with the more

* H. Weitemeyer, ed. "Denmark, its History, etc.," 1891, p. 18.

† Allen, "Hist. de Dannemark," vol. ii, p. 29.

able kings of other countries. There were five other children, but Christian proved the only one to leave a distinguished record. Anna, the wife of Christian IV, descended from a comparatively obscure branch of the Brandenburg family, was a mild, sweet-tempered, charitable princess,* but not a conspicuous character in contemporary records. Their son, Frederick III[776], 1609–70, was a wise and shrewd sovereign, but of languid disposition. His temper was amiable, and his reign popular. The brilliant, haughty, and vindictive Sophia Amelia was queen during this reign. It was she who imprisoned the king's half-sister Eleanor for twenty-two years, because, when trying on the crown, it is said, Eleanor dropped it and injured a very fine jewel. The same authority gives us the anecdote that she ordered a noble executed, because he claimed she would fall in love with him. The Brunswick stock from which she came shows at this point no eminence of any kind; still, we should expect some of her six children to have inherited her mental gifts. The next generation gives us a rather mediocre showing, with Prince George[781] (husband of Queen Anne, of England) almost a fool. Ulrica Eleanor (7), who married Charles XI, of Sweden, and became the mother of the remarkable **Charles XII,** was the only one among the six children to represent the intellectual side of the family.

Christian V[777], 1646–1699, the eldest son, courageous, enterprising, and chivalrous, was no ordinary man; but the strong tendency to ease and pleasure, and the weakness he showed in being governed by others, forbid us to give him a high rating for intellect when this is judged by

* L. J. Flamand, "Danmarks Dronninger, og Kongernes Gemalinder," 1848, p. 11.

the standard of outward achievements. His marriage brought in no mental uplifting, since the queen Charlotte Amelia was from an "obscure" region in the family of Hesse-Cassel. Neither in the next generation (Frederick IV) nor the two followingt his (Christian VI and Frederick V) do we find any noteworthy mental variations. In all these generations a study of a chart would show the stock good, but far from illustrious.

We now come to a very interesting anomaly in Christian VII[792], the only son of Frederick V, by his first wife Louisa[16], daughter of George II, of England. Among all modern royalty there is scarcely a feebler specimen of the human race than this poor little, half-mad, debauched king. His type of mind was so puerile and his self-restraint so weak that it seems only charity to consider him among the irresponsibles. From L. Wraxall and Walpole an idea may be obtained of his conduct during his visit to England, giving the positive impression that he was a degenerate of the worst type. He would be in just the place we might expect to find him, if he belonged among the older Romanoffs or modern Bourbons, yet there is none of this blood in him, nor is there any other equally bad. Christian VII was a grandson of George II[8], of England, and whether he got his bad qualities from him it is impossible to say. If he did, he was certainly a great deal worse than George, and much feebler intellectually. It is interesting in connection with heredity to note that Christian VII was a first cousin of George III who was insane, and also the first cousin, once removed, of the two imbecile sons of Augusta, Princess of Brunswick, sister of George III.

Another more convincing bit of evidence in this con-

nection is to be found in the neighboring house of Hesse-Cassel; here we find another first cousin, once removed, of Christian VII, who became insane and died in early manhood. The observation that this man Christian, son of Charles, of Hesse-Cassel, is doubly descended from the suspected strain (Palatine house), makes it almost certain that we are dealing with an inherited insanity in all cases. Both the mother and father of this Christian, of Hesse, were grandchildren of George II[8], and consequently from the Palatine house. I almost forgot to mention Frederick William I[227], of Prussia, about whom Macaulay said, "His eccentricities were such as had never been seen out of a mad-house." Frederick William[227] was a first cousin of George II[8], and stands as near the actual Palatine insanity as a nephew.

These six cases would, if occurring in families of ordinary social position, be sent to asylums and never make their way into the records as showing a congenital tendency. Since they stand apart from the other regions of insanity such as the Spanish, Russian, and modern Bavarian groups, at first we might suspect nothing; but here, where we have the family tree and can look up the ancestry, curiously enough we find all related, and through the same source (Palatine), the common line of descent in which there was insanity. This unstrung mental condition which we find in Rupert, of Palatine, the famous cavalier and his brother Edward, seems, then, the probable origin of these scattered cases.*

* O. Lorenz suggests that the insanity of George III of England was a reversion to William of Brunswick, his sixth ancestor in the male line, who died in 1592. "Lehrbuch der gesammten wissenschaftlichen Genealogie," 1898, p. 433.

It should be noticed that the percentages for heredity among the insane run from twenty to ninety, according to the observer, and instances like this should make us think that the higher rather than the lower figures would be found more correct were family histories more completely followed out.

Besides this evidence, we may mention the following facts: that the uncle of Christian VII, the Duke of Cumberland, was extremely cruel; and his other uncle, Frederick, Prince of Wales, was a dissolute specimen; and William IV, of England, was eccentric, to say the least. Whatever we may say for hereditary influence, the bringing up of Christian VII was decidedly bad. He was in the hands of his stepmother, Juliana[201], of Brunswick, who is said to have used every means to corrupt his morals and stunt his education that she might get the more power in her own hands. I only mention this to show a good example of the sort of cases that should make us bend strongly towards the importance of environment in molding the psychic form. It is the relative absence of such cases that has led to the view taken in this book. In spite of the fact that Christian VII married his first cousin, related on the bad side of the house, since she was a sister of George III[18], of England, his two children were not of the worst sort by any means, though in general we may say that one took after the father and one the mother. Louisa Augusta, the daughter, had relatively very little intellect, no ambition, and a very quick temper; while Frederick VI, the next king, mild, affable, and sensible, resembled his mother.

The remaining characters, Christian VIII[799] and Frederick VII[803], were merely examples of good normal men,

liberal, popular, and sufficiently able to fill their positions with honor to their country. There is nothing particularly interesting just here, so we can conclude the chapter of the Oldenburg dynasty with a glance back at the seventeenth century.

It will be noticed that there is one little region where the intellectual ratings are fairly high, and that included in this group is (8) Christian IV, the greatest of Danish kings. The only slight error from expected heredity is that the intellectual eminence fails to be perpetuated to quite the extent we might have expected in any of the children of Frederick III. Ulrica Eleanor[782], the only gifted child, was "distinguished for her knowledge." She was the mother of **Charles XII,** of Sweden, and in him the genius was more than rejuvenated.

Aside from this, heredity is very well satisfied in the study of this country, there being at most not more than one or two exceptions to what we might expect from the workings of this force. It is also important to note that the age of absolutism entirely failed to produce a type of cruel and arrogant kings. Had such a type been here engendered, it would certainly have been ascribed largely to the environment in which they lived.

NOTE. — The characters occurring under the house of Denmark are all graded in the first chapter of the book. These grades are based on all the averaged opinions taken from the following sources: "Dansk Biografish Lexikon" (the leading biographical dictionary in Danish); "Biog. Universelle"; Lippincott's; Coxe's "Travels"; H. Weitemeyer; Allen, "Histoire"; I. Crull; L. Wraxall; Brown, "Northern Courts"; P. H. Mallet; S. Laing. *See Appendix.*

CHAPTER XV

Sweden

[804]—[832]

Gustavus Vasa to Charles XIII

The houses of Vasa, Palatine, and Holstein, which held the throne of Sweden from 1527 to 1818, give us the names of thirty-four related persons in the direct family, and cover a period of eleven generations. By including the ancestors to the third degree for each generation of children, we bring in 122 more names, and have in this total of 156 an abundant and interesting field for the study of heredity. These families of Sweden are full of eccentricities, abilities, and weaknesses, and the tracing of these peculiarities will be the subject of this section of the work.

Gustavus Vasa[804], 1496–1560, the founder of the celebrated dynasty bearing his name, was a most remarkable and inspiring character. Of a noble though poor and uninfluential family, young **Gustavus** gave proof even in youth of that striking personality which was destined to deliver Sweden from the terrors of misrule and foreign control, and make his name ever cherished in the hearts of his countrymen. Even as a boy he "played the king," and declared he would live to drive the Danes out of Sweden.

In 1517, **Gustavus** was captured by a Danish ship of

war and imprisoned for a year in the castle of Kalloe in North Jutland. Having escaped from prison, he fled to the mountains of Dalecarlia, where, after enduring great hardships, he at last succeeded in attaching to himself a powerful party, with which he marched towards Stockholm, which finally surrendered in 1524, after an obstinate defense. The throne of Sweden was now offered to him, but he at first refused. At last, after general solicitation, with the interest of the welfare of his country at heart, he accepted, and was crowned king in June, 1527.

"Born in a private station and bred in the school of adversity, . . . equally great in the public characters of a legislator, warrior, and politician, he distinguished himself in every station of life, whether we consider his cool intrepidity and political foresight, his talents for legislation, his propensity to letters and encouragement of learning, his affability to the lowest ranks and his solid and enlightened piety. All his qualities, set off by a majestic and graceful person, and still further heightened by the most commanding eloquence, drew the esteem and admiration of all, so that it might justly be said that the most arbitrary monarch never exercised a more unbounded sway over his vassals than Gustavus possessed from the voluntary affection of his free-born subjects. In a word, he was a sovereign who was esteemed by foreigners no less than by his own people, by contemporaries as well as by posterity, one of the wisest and best that ever adorned a throne." *

We shall see later how closely he was reproduced in his grandson, **Gustavus Adolphus the Great.**

The father of this founder of the house was Eric

* Coxe, "Travels in Russia, Sweden, and Denmark," vol. iv, pp. 132–134.

Johansson, who is described as an insignificant little man with a violent and uncontrollable temper.* The other ancestors were "obscure," and, as far as known, were without special gifts of any sort. So **Gustavus Vasa** must be considered a new variation or a "sport" in biological terminology. How this genius was transmitted we shall see in the subsequent history of the house.

Of the nine children available for our study, we have very complete accounts concerning five. These are Eric[805], John[806], Magnus[807], Charles[808], and Cecelia[810]. The others did not distinguish themselves in any way as far as known. Of these five, all but one, Charles[808], were violent or eccentric or both. The mother of all but Eric, Margaret Lejonhufond, was a gentle, beautiful, and tactful princess,† with whom **Gustavus** lived very happily. Therefore, since the grandfather, Eric, was violent and cruel, and since insanity appeared in Eric and Magnus, the children of both marriages of **Gustavus,** it seems fair to assume that the lack of mental balance was hereditary, and on the male side. Whatever may have been its origin, the insanity was a family trait, and eccentricities of one sort or another will be found in several of the descendants.

Eric, the eldest son and next king, was suspicious, gloomy, and cruel; and finally, becoming insane, was obliged to abdicate. He was, nevertheless, extremely learned, having a profound acquaintance with the classics and all the sciences of his day, especially the occult branches.

John, the second son, was both passionate and weak.

* Geijer, "History of Sweden," vol. i, p. 97.

† Geijer, vol. i, p. 127, and J. Doran, "Monarchs, etc." ii, p. 204.

"His tender conscience, though it did not prevent him poisoning his father, Eric, yet induced him to pay a most scrupulous obedience to the ridiculous penance ordered by the Pope for commission of the murder."* "His temper hasty, his disposition selfish, with strong instinctive attachments, so that in domestic life he oscillated between the extremes of indulgence and severity . . . he at last grew to be afraid of his own shadow." †

Magnus became insane. Cecelia, his sister, brought disgrace on the family even in her youth. Later she went to England with her husband, where she got frightfully into debt, and died after leading a rambling and dissolute life.

Charles IX[808], by far the flower of the family, inherited much of the genius and character of his father. "Although the transcendent merits of Charles the Ninth are eclipsed by the superior qualities of his father and son, yet even as the son of Gustavus Vasa and father of Gustavus Adolphus he seems to shine no less with native than reflected luster. He was enterprising yet cautious in war, sagacious and decisive in the cabinet, a friend of humanity, yet severe in punishment of crimes. Attached by principle to the Protestant cause, he raised it, almost drooping, again to preëminence. Zealous to promote the interests of his people, he built towns, encouraged commerce and agriculture, and patronized letters. Of quick and lively feelings, he was subject to violent but short transports of passion, which harassed his frame and finally occasioned his death." ‡

* Coxe, *op. cit.*, vol. iv, p. 247.
† Chapman, "Hist. Gust. Adolphus." Lond., 1856, p. 27.
‡ Coxe, vol. v, p. 175.

Another type of Vasa eccentricity is found in the career of Gustavus[811], the son of the mad Eric XIV[805]. Gustavus had from youth an adventurous and curious existence. Rescued when an infant from the sack in which he was to have been murdered, he was conveyed from Sweden to the Jesuit convents of Thorn and Vilna.

"In these different seminaries he made considerable progress in literature, and in particular distinguished himself so much by his proficiency in chemistry that he was called the second Paracelsus. He was no less remarkable for his knowledge of languages, speaking with fluency, besides his native tongue, French, Italian, German, Polish, Russian, and Latin. He was indeed so zealous in the prosecution of his studies, that on account of his indigent circumstances, after attending the schools by day, he used in the evening to ply at the inns in the lowest capacity, in order to procure a scanty subsistence.

"His literary acquisitions, however, did not advance his future, for he passed a wandering life in the greatest misery; was reduced to such straits that he frequently had recourse to charity, and at other times earned his living by the meanest occupations." *

Here we see a striking instance of a son resembling his father. The literary and scientific one-sidedness so strongly marked appears with equal force even under these trying and humble circumstances, and when no influence of family example could have taken a share in its formation, since Gustavus when an infant was removed from the surroundings in which he was born.

Sigismond III[812], 1566–1632, the next to be considered, was also in his way a rather unusual character, though

* Coxe, "Travels in Russia, Sweden, Denmark," vol. iv, p. 251.

the figures (4) (5) do not indicate it. This son of the brother, John, and of Catherine, daughter of Sigismond of Poland, acquired the throne of Sweden before his uncle, Charles IX. The bigotry of Sigismond, combined with his weakness and peevishness, led to discords and estranged his subjects from him, so that his uncle, Charles, was gladly welcomed as a deliverance to the country, and Sigismond was formally deposed in 1604.

It should be noticed that of all the children of the illustrious **Gustavus Vasa,** Charles IX was by far the best; and it was the son of this king who became the brightest light in Swedish history, — probably, everything considered, the greatest figure in all modern royalty, and one of the most ideal heroes who ever lived, **Gustavus Adolphus the Great**[814].

To recount the characteristics of this celebrated champion of the Protestant cause would be but to repeat again the eulogies for the founder of the house, his grandfather. The nobility and genius of **Gustavus Adolphus** are too well known to need much comment here. It will be sufficient to quote a few extracts from the many works devoted to his life and achievements.

"He ascended to the throne in his seventeenth year, and soon gave proof of his extraordinary abilities. The military talents of Gustavus Adolphus were of the highest order, but they were surpassed by his admirable qualities as a man and his virtues as a ruler." * "Gustavus was," says Schiller, "incontestably the first commander of his century and the bravest soldier in the army which he created. His eye watched over the morals of the soldiers as strictly as over their bravery. In everything their law-

* Lippincott's "Biog. Dict."

giver was also their example. In the intoxication of his fortune he was still a man and a Christian, and in his devotion still a hero and a king."

Such is the universal testimony of both contemporaries and historians in admiration of the sublime personality of **Gustavus Adolphus,** the Lion of the North, who like a brilliant comet flashed for a brief time over European affairs, until his course was terminated all too soon while defending the faith for which he gave his life.

Cut off in his thirty-eighth year, when most men are only beginning to assume the full responsibilities for which they are fitted, we do not know what might have been the limit to the manifold acts of benefit and righteousness that would have been conferred by Sweden's greatest king. Let us pause in passing to consider the mysteries of fate that heaped upon this man, sandwiched in between the maniacs and weaklings of his family, all the gifts of mind and heart ever allotted to mortals. If great men are divine, then heredity is, for **Gustavus Adolphus** is but a perfect repetition of his illustrious grandfather.

After the death of the great king, Sweden passed into the hands of a regency for **Christina**[817], his only child. Her sprightly wit and spirit, her energy and taste for learning, all gave her countrymen the greatest hope for a brilliant future for their beloved little queen, "who astonished her guardians by the vigor of her understanding." In 1644, on her eighteenth birthday, she assumed supreme power, and for some time fulfilled all the expectations which had been formed for her reign.

The Swedish people were anxious that **Christina** should marry, but she declined to sacrifice her independence.

In 1649, however, she persuaded the Diet to accept as her successor the best of her suitors, Charles Gustavus, of Palatine-Zweibrück, the son of the only sister of **Gustavus Adolphus.** In the following year she was crowned with great pomp.

"About this time Christina's character seemed to undergo a remarkable change. She became wayward and restless, neglected her tried counselors, and followed the advice of self-seeking favorites. So much discontent was aroused by her extravagance and fickleness that she at last announced her determination to abdicate." *

After abdication in 1654 she left for foreign courts, where her eccentricities and daring disregard for conventionalities became the talk of Europe. Upon the whole, her character presents a strange combination of faults and foibles, pushed to the most extravagant excess. She says of herself, "that she was mistrustful, ambitious, passionate, haughty, impatient, contemptuous, satirical, incredulous, undevout, of an ardent and violent temper, and extremely amorous." †

The violent temper was common to a large number of her paternal ancestors, but it is especially interesting to note that the change in her character was very similar to that of Eric XIV[805], who began his reign very well, and whose unstable temper did not display itself until he was about twenty-five years old. Magnus, his brother, likewise became insane at about the same age. The inconsistencies of character which stand out so strongly in many of the members of this family have not been very common among royalty. They were found to

* "Ency. Brit.," 9th ed., art. Sweden.
† Geijer, "Hist. Sweden," vol. i, p. 148.

be very common among the relations of **Peter the Great,** where they were considered related to a family psychosis. Here there is also a psychosis, so we have in the coincidence a very strong proof that most of the *moral* nature here inherited in the form of inconsistencies, as well as the mental, is subject to heredity. Since Christina abdicated to her cousin, Charles Gustavus[818], we now take up the Palatine dynasty of Sweden, which includes the characters numbered from [823] to [834] inclusive. Charles Gustavus, it is to be remembered, was the best of the many suitors for the hand of the eccentric **Christina,** and although he, like all the others, failed to change her mind regarding her determination to remain single, her appreciation and regard for him were such that she succeeded in having the succession made in his name. The father to this new heir to the throne was likewise a man of excellent character, energy, and abilities. Besides, we find Wolfgang, of Palatine, 1569, the great-grandfather, a man of great distinction in his day. As Catherine, the mother of Charles[818] and sister of the great **Gustavus Adolphus,** was intellectual and energetic, we have here in starting the new dynasty a selection of by far the better members of the family.

Charles X[818] himself was a rather remarkable character, being a man of the greatest enterprise, and, as a commander, showed the family brilliancy in a striking degree. His measures were in general entirely just, his only noteworthy weakness being his passionate temper.

The only child of Charles X was Charles XI[823], who became king of Sweden in his turn, and began to exercise his power in 1692. He seems to repeat the character of his father almost exactly.

"Charles was chaste, temperate, economical, vigilant, and active, a patron of letters, severe yet not implacable, prone to anger but easily softened. If we consider the interior administration of affairs, Charles XI was one of the wisest monarchs who ever sat upon the throne of this kingdom. To him Sweden stands indebted for many excellent regulations which still subsist." * "He promoted manufacture, commerce, science, and arts, subverted the power of the senate, and when he died, left a flourishing kingdom to his son Charles XII." † "He died aged forty-two, lamenting, it is said, upon his deathbed, as the only reproach to his memory, the natural violence of his temper, which he had not sufficiently corrected." ‡

Charles XI married Ulrica Eleanor[782], a virtuous and intellectual princess. She was a daughter of Frederick III, of Denmark, and sole representative among six children of that little group of brighter lights forming Denmark's highest intellectual wave, and centered about Christian IV, her greatest king.

From this union sprang two daughters, in no way remarkable, and one son, born in 1682, who, as Voltaire says, "became, as **Charles XII,** perhaps the most remarkable man who ever existed upon this earth, who united in himself all the great qualities of his ancestors, and who had no fault or misfortune except in having them too greatly exaggerated." Invincibly obstinate from childhood, the only way of moving his will was through his sense of honor. **Charles** was inordinately

* Coxe, "Travels," vol. iv, p. 39.
† Lippincott's "Biog. Dict."
‡ Schloetzer's "Briefwechsel," vol. i, p. 147.

ambitious from youth, his only desire being to imitate the career of Alexander the Great. When only eighteen years old an opportunity was given him to display his "extraordinary martial genius" in his unequal contest against three of the most powerful monarchs in Europe. **Peter the Great,** of Russia, Frederick IV, of Denmark, and Augustus, King of Poland, who, thinking on account of the youth of Charles to divide his kingdom between them, formed a league against him. With only 20,000 Swedes he attacked 80,000 Russians under the Czar **Peter** who were besieging Narva, and then, with only 8,000 men, before the arrival of his main army, gave the Russians such a severe defeat that they were filled with consternation.* A little later when **Peter** made overtures for peace he replied that he would "treat with the Czar at Moscow."

Charles XII[824] was by no means successful in his subsequent battles, but, considering the enormous odds against him, this semibarbarian, "whose ambition was madness and whose valor was ferocity," may justly be considered one of the greatest commanders of modern times, as well as one of the most remarkable men who ever lived. Rude, but chaste, frugal in his dress, food, and mode of living, he seems to have had few failings save his impetuosity and inordinate ambition.

Of course, such a character as **Charles XII** can never be directly derived from any law of heredity like Galton's. A man who has more of certain characteristics than other men cannot be produced by adding together in a proportionate way the same characteristics of his ancestors. But if these extreme types like **Charles XII, Peter the**

* Lippincott's.

Great, Don Carlos, son of Philip II, and **Frederick the Great,** occur most frequently where there is much of the same sort of character in several of the ancestors, we are better satisfied that the types are the product of hereditary influence, than if they frequently occurred in regions where none of the relatives show the character in question. The wave does not flow back towards the mean for every child or even for every generation. It also flows in an upward swell, and it is only to be expected that variations shall occur that show its highest manifestation where there is already some considerable indication of its presence in the neighborhood of the person in whom it appears in such an extreme degree.

In referring back to the ancestry, we find the character of **Charles XII** almost exactly repeated, though in a lesser degree, in both his father and grandfather. They were both active, vigilant, enterprising, and warlike, frugal in daily living, but passionate in their temper. There were ambitions of marked talents in nearly all the other ancestors. His mother was intellectual and virtuous, and derived, as we have seen, from the most able region of Denmark. So, after all, taking into consideration the two sisters of **Charles XII,** who were nobodies in the intellectual scale, we do not find this "fraternity" to which he belongs, giving us more than is called for.

We are now brought to the dynasty of Holstein, which in the six characters, numbered from [832] to [837] inclusive, gives us no names that amount to anything; nor am I able to find out anything concerning the apparent nonentities who formed the ancestry and relationship of these. With the exception of Charles Frederick, of Holstein, also an inferior character, this new dynasty is in no way

related to the former dynasty of Palatine, which, like that of Vasa, we have found so remarkable.

Adolphus Frederick, of Holstein[827], one of the inferior ones above mentioned, married **Louisa Ulrica**[233], a sister of **Frederick the Great.** We find in her a woman of a very different stamp. Among all the richly endowed sisters of **Frederick the Great, Louisa Ulrica,** Queen of Sweden, stands probably at the head of the list. An idea of her character and attainments can be drawn from several contemporaries here quoted.

"The Queen Dowager to whom we had the honor of being presented, a sister of the King of Prussia . . . a princess who resembled her brother as well in the features of her countenance as in those eminent qualities which characterize the house of Brandenburg.

"She was accustomed to rule the cabinet with absolute authority in the reign of her husband." *

"A great and inflexible woman of rare endowment and uncommon cultivation." "Really merited the appellation of the 'Minerva of the North.'" †

Since **Louisa Ulrica** belongs, of course, among the Hohenzollerns, we have passed rather rapidly over the dynasty of Holstein, which to this point has furnished no great names. The next generation, children of Adolphus Frederick and **Louisa Ulrica,** gives us four, and among them, third in the list, **Gustavus III**[828], who was destined to shine as another Swedish king of extraordinary ability. "His ardent mind and fertile genius acted as a perpetual impetus to things that were new, grand, and out of the common track." He was 'so accomplished

* Coxe, "Travels," vol. iv., p. 30.

† Brown, "Northern Courts."

a gentleman that there was scarcely a professor of literature or any of the liberal arts but he was able to excel each in his own peculiar study. He was always spoken of as a prodigy of talents." *

Lippincott's "Biographical Dictionary" says that, "In addition to his talents as a statesman, he was distinguished as a poet and dramatist."

This literary bent was very strong in his mother as well as in many members of her family.

His sister, Sophia Albertina[831], "was possessed of a great share of personal virtue and a capacity as vast and varied as her brother, and unsullied by his vices." The oldest brother amounted to nothing; while the youngest, as Charles XIII[829], showed in his ambition, wisdom and skill in the management of the country's affairs, much of the family genius.

Gustavus IV[832], the only son of **Gustavus III,** and the last of the family, though gifted to a certain extent, carried ambition to madness and folly, and, being finally deposed, supported himself by writing, together with a small pension. Since Charles XIII, the uncle of Gustavus IV, who succeeded him on the throne, adopted and made successor, Bernadotte, Napoleon's agent, we have now reached the close of our chapter on modern Sweden.†

In the study of this country, from **Gustavus Vasa** to Gustavus IV, we find throughout a most perfect confirmation of the theory of mental and moral heredity. We find that in selecting those who were to become the progenitors of the next generation, twice a choice of the best

* J. Brown, "Northern Courts," vol. i, p. 341.

† Characters belonging to Sweden may be found graded in the first chapter of the book.

among them all in Charles IX and Charles X, and the cause of this selection lay in the fact that their very merits brought to them the throne. In the union of Charles the Tenth's great son with the strongest part of Denmark's dynasty, we have still another point where the genius was not allowed to die. We find no more great names, only the petty Holsteins, until **Gustavus III**[828] reclaims once more the glory of his ancestors; but this we find to be not the ancient genius, but a fresh graft, and from the famous Hohenzollerns, taken at the height of their intellectual eminence in the time of **Frederick the Great**[229].

In all this Swedish history the lives of these men and women cannot be explained by environment. If we adopt this view, why did so many among them who must have had most abundant opportunities, fail entirely to exhibit any of these remarkable mental statures? The only serious defect on the moral side was their violent and ungovernable temper. Since there was also mental unbalance in the family, it seems fair to assume that these violent tempers were a manifestation of the psychosis, and not to be ascribed to their high and arbitrary position.

Also, relative to the moral qualities in this family, there does not seem to be any good reason from the standpoint of environment, why there should be such an absence of that dissolute and licentious type so continually found in Spain, France, and Russia during these same centuries. But if we look at it from the standpoint of heredity, we can easily see why this is so, since it was neither there to any great extent in the earlier generations, nor was it in those who became the subsequent ancestors on the ma-

ternal sides of the different male lines considered. It does not seem that the example, set to princes by their parents should be of more effect than general temptations such as come to all who have abundant means at their disposal; and we know too many examples, both in royalty and out, where parental influence has sadly failed to inculcate such desirable lessons.

References: "Biog. Universelle"; Lippincott's; "Allge. deutsche Biog."; Geijer, "Hist. de la Suède"; W. Coxe, "Travels"; Brown, "Northern Courts"; Ruehs, "Gesch. Schwedens"; Bain, "Scandinavia." *See Appendix.*

CHAPTER XVI

Evidence from Lehr's Genealogy

If there is any one still unconvinced that heredity is by far the most important of all causes leading to high mental activity resulting in what we call eminence or distinction, he need only carefully study the great book of pedigrees compiled by Paul Ernst Lehr. If he will follow these charts of relationship, and, at the same time, use any general biographical dictionary, he will find how seldom has distinction, as judged by achievements, fallen to those not close blood relations of others of the same stamp. And this consanguinity of distinction is found in spite of the varying degrees of education and opportunity that must have been presented to these different princes even when living in the same age or the same family. If we find, as we do on certain pages of the book, great barren regions containing dozens of titles of the highest social rank, the bearers of which lived in different countries and eras, there is no reason to suppose that these undistinguished princes did not average just as much opportunity as the average of dozens on some other page where, clustered together from close blood relationship, are the names of those whose achievements have been the themes of biographers and historians.

For instance, there does not seem to be any reason why the kings and princes of Denmark should not have averaged just about the same opportunity as the princes

of Prussia; education of varying degrees of perfection, stirring times and chances to display ability in war and government, fell to the lot of a certain number in each country, certainly to no more in Prussia than in Denmark, yet Denmark is barren of genius, and Prussia at the same time is full of it. In that period not only do we find great men and women in Prussia, but also their relatives in Brunswick and Sweden, engaged in vigorous activity, while the princes of nine-tenths of the other countries of Europe are doing nothing really worthy of any mention at all, although education and events must certainly be favorable to a great many of them.

It is not that education is of no moment, for it must be, as we all know, of conspicuous influence in mental development. Even those "self-made" men who have had no education worth mentioning in the ordinary sense of the word, have nevertheless educated themselves by observation and experience. It is not that education is of no moment, but it must be that the determining factor in the production of the more important man is not his education or his opportunities, but the inherent desire for knowledge and power that makes him *seek* an education in one way or another, while the mediocre man is not willing to have more thrust upon him than his native attention can stand.

Lehr's "Genealogy" is a book compiled for purely heraldic purposes, and traces to the twelfth degree of remoteness eight of the principal reigning families of northern Europe. Since in going back twelve generations every person has 4,096 ancestral quarterings, the total value of the material brought together in this way is $8 \times 4{,}096 = 32{,}768$, an immense field for the study of

heredity. Owing to intermarriages the total number of different persons is considerably less than this, being 3,312; but it makes no difference from the standpoint of science whether we repeat the same person several times in the pedigree, or whether another of the same characteristics is introduced in his stead, the scientific value of this book is represented by the larger number, 32,768. This is, of course, ignoring the possibility that inbreeding of itself creates a different value for the stock; but since inbreeding in these northern families was never very close, and since it is the best scientific opinion that inbreeding *per se* as usually carried on among human beings is of no consequence, other things being equal,* this error, if it be one, may be neglected.

A group of 32,768 persons, such as we have in the pages of Lehr, possesses several peculiar advantages for the study of the origin of genius. First, it is gathered together in an entirely impersonal way, Lehr having no scientific theory in view. Second, it contains also mediocrities, so that we may see how many times mediocrity has produced its like before any genius appears. Third, the exact relationship of every person to every other person is known, and the pedigrees are perfectly complete. Fourth, nearly all are of royal or noble birth, very few being below the rank of a count, so that, although their environments were very different, their social position was always much the same.

Among all these 3,312, I found only sixteen worthy of the (9) or (10) grades here employed. (Being mentioned in Lippincott's for high ability.) These are given in the list below, the word (new) being prefixed to those

* *Conf.* Huth, "Marriage of Near Kin." 8vo. London, 1887.

whose immediate ancestry is devoid of others of equal intellectual worth.

1. (new) Anhalt: Catherine II, Empress of Russia.
   Catherine must be considered as a "sport" in more than the popular use of the term, since her ancestry was in no way remarkable. She did not leave any descendants nearly as capable as herself.
2. Brunswick: Amelia, Duchess of Saxe-Weimar.
   "Distinguished patron of genius and learning." Friend of Goethe. She was an excellent student, in which she showed "wonderful perseverance," and also composed considerable music. Amelia was a niece of Frederick the Great, and consequently closely related to about a dozen of the most brilliant of modern royalty.
3. Castile: Isabella the Catholic, wife of Ferdinand of Aragon.
   Isabella was probably a reversion due to the remarkable and repeated inbreeding from John of Gaunt, Duke of Lancaster, and John the Great, of Portugal. Her illustrious descendants were numerous. Among others may be mentioned the emperor, Charles V, Don John of Austria, and Alexander Farnese.
4. Coligny: Caspard, the great admiral.
   The great admiral was the product of the union of the Colignys with the Montmorencys when both families possessed illustrious names. He also left great descendants (Maurice of Nassau and others).
5. Coligny: Henriette.
   Poetess; a grandniece of the admiral.
6. (new) Douglas: Archibald, Earl of Angus.
   Not a conspicuous example of heredity. His son Gavin was distinguished as a poet.
7. (new) Egmont: Lamoral, –1558.
   Had two sons of some distinction.
8. Hanau: Amelia, married William V, of Hesse-Cassel.
   As regent, "extraordinary energy, wisdom, and virtue." William the Silent, the illustrious founder of the Dutch Republic, had thirty-two grandchildren, four of whom were distinguished. Amelia was one of these four.

9. Hohenzollern: Frederick William, the Great Elector of Brandenburg. True founder of the eminence of the Hoheuzollerns and greatest man in Germany in his day. He was one of the numerous great-grandchildren of William the Silent.

10. Lorraine: René II, Duke of, –1508.
Defeated Charles the Bold. Mother was a daughter of René, Duke of Anjou (distinguished).

11. Lorraine: Claude, first Duke of Guise, son of the above. He served in the army with distinction at Marignano and other places, and was created Duke of Guise by Francis I. His fame was exceeded by his son, Francis, who became "one of the greatest commanders of his time," and also by his grandson, Henry, the bitter opponent of the Protestants.

12. (new) Orange: William the Silent, illustrious founder of the Dutch Republic. Sprang from comparatively mediocre stock, but his genius was wonderfully well perpetuated owing to his remarkably brilliant alliances.

13. Palatine: Sophia, Electress of Hanover, an undoubted example of hereditary talent, owing to her many brilliant relatives, and one of the connecting links between the genius in the families of Orange and Hohenzollern.

14. Parthenay: Catherine, Vicomtesse de Rohan, –1631.
"A spirited and gifted French lady; was a Huguenot. She distinguished herself at the siege of La Rochelle in 1627, and later published some poems." The famous Duke of Rohan was her son. He was called "the perfect captain;" also wrote valuable memoirs and a treatise on war. The father and aunt were both distinguished.

15. (new) Romanoff: Peter the Great of Russia.
It is a question whether Peter is to be regarded as a new variation or a reversion to his great-grandfather, Feodor, who was the greatest man in Russia in his day. His only other very brilliant relative was Sophia, his half sister.

16. (new) Vasa: Gustavus I, illustrious founder of the dynasty.
Certainly a new variation. Genius amply inherited in Gustavus Adolphus and others.

These are all the great names found among 3,312. All the quotations are taken from Lippincott's "Dictionary," so the work has an entirely impersonal basis. In considering the remaining 3,296, who, as far as Lippincott's great dictionary is concerned, have left no lives worthy of distinguished merit, we gain an insight into the rarity of such men and women as the **Great Elector of Brandenburg** or **Catherine Parthenay.** What of these remaining 3,296? Can it be possible that, living in the highest social position as they did, a very large majority of them did not have abundant opportunities to exercise ability had they been the possessors of it?

What is to be said on the side of heredity? It will be seen that at least seven of these sixteen numbers (2, 4, 5, 8, 9, 12, 13) belong in what may be called the great main mountain chain of royalty, already discussed, composed of the families Condé, Coligny, Montmorency, Orange, Palatine, and Hohenzollern, whose course has been already traced from Anne de Montmorency 1493–1562, as far as one generation beyond **Frederick the Great** in the beginning of the nineteenth century.

Of the other nine, **Catherine II**, of Russia, alone gives no striking proof of heredity. It is examples of this sort that should be most frequent were environment the main cause. Since wars have been going on during most of the period covered in this book, and since the majority of princes have had positions in the army and cabinet, and have been given fair educations, and since the effects of environment must have been mostly questions of chance, apart from family influence, there does not seem to be any reason why environment should group the great ones together in any way except as regards time or place.

But these sixteen are not grouped as regards time or place, but are scattered over the centuries and in various countries. If more than ninety per cent of them are compatible with all that can be expected from heredity by falling close to others of their own stamp, and the chances are tremendously against such an occurrence owing to the large preponderance of mediocrity, then we must conclude that heredity is far more important than environment in the causation of the above facts.

About half the number are new variations. This is pretty well in line with results in the study of genius in general. That is, the vast horde of mediocrities produce great men in about the same number as the relatively small number of great perpetuate their own kind. The reason why genius for war and government was maintained through more generations than scientific or literary genius has ever been, is probably simply this — leading families in science and art do not in general intermarry in the way that these great governing families have done. Some exceptions to this may occur, as in the families of Jonathan Edwards and the famous musician, Bach, but in these cases the mental qualities were perpetuated.

CHAPTER XVII

The Correlation Between Mental and Moral Qualities

In this chapter I propose to present for the first time, so far as I know, some figures proving a certain correlation between mental and moral qualities. In addition, I have some data showing, not the birth rate, but what is more to the point, the number of children who have reached *adult* age, born to ten different groups of parents, arranged according to their moral qualities. Both series of facts taken together give us an insight into the progress of the purely intellectual faculties. They show how the *mental* level in each generation may be raised by no other force than natural selection.

The complete acceptance of the theory of the "survival of the fittest" as an explanation of evolution has had for one of its greatest bugbears the disbelief that such a force could of itself be sufficient to explain improvement in the higher human traits. In the lower forms of animal life the advantages of intelligence in the struggle for existence are evident. Cunning and strength mean better sustenance or surer escape from natural enemies. But how can such brute forces as these be of determining significance among individuals of the human species, especially during the latter ages in which man has risen above barbarism? That man has evolved is admitted, that he will continue on the upward road is generally believed, but how is an unsolved problem.

For those who believe in the inheritance of acquired characteristics, the accumulated effects of education and superior outward advantages are the forces on which the present has been built and on which the future is to rely. For those who doubt or deny the old Lamarckian principles, — and we believe an increasing number of naturalists belong to this school, — no such easy explanation is at hand. Some writers consider that acquired characteristics are probably not directly inherited through the physiology of the hereditary mechanism, but that the accumulated culture of each generation creates a new environment which in each generation becomes the bequest handed on to the next. In this way institutions, scientific improvement, and traditions go on from century to century in their work of building up the race. It is difficult to see how men really and essentially improved or superior in natural endowments could ever be produced through the working of such a process, even in an æon of time. And, indeed, it is denied that human nature has at heart changed or ever will change. To the minds of some, civilization is but a gloss and a veneer; politeness and kindliness are maintained while everything runs smoothly, but let danger or necessity arise, and they say man is again thrown back on his brute passions.

For a discussion of the question, "Is the mean standard of faculty rising?" and the citations from various authors who consider on theoretical grounds that it is not (Buckle, Bellamy, Ritchie, Gladstone, Benjamin Kidd, *et al.*), see Lloyd Morgan, "Habit and Instinct," where he himself states in his closing paragraph: "Natural selection becomes more and more subordinate in the social evolution

of civilized mankind; and it would seem probable with this waning of the influence of natural selection there has been a diminution also of human faculty." Alfred Russel Wallace writes:* "In one of my latest conversations with Darwin, he expressed himself very gloomily on the future of humanity, on the ground that in our modern civilization natural selection had no play, and the fittest did not survive." Wallace himself insists that there are forces to be counted on for the amelioration of the race, one of which is the process of *elimination* "by which vice, violence, and recklessness so often bring about the early destruction of those addicted to them." But it is much more difficult at first sight to see how purely intellectual qualities are to be enhanced through any process of natural selection going on at the present day. Nevertheless, if a mental and a moral correlation can be shown to be a reality, the difficulty is overcome.

The following figures, which prove that the morally superior are also the more endowed mentally, are drawn from the various grades for virtues used in the other chapters of this work, and collected in the lists in the first part of the book.

If a personal equation may have unconsciously influenced the grading, it can have no possible effect on the results of the present problem, because the grading was made with a view to the study of inheritance, without the least idea of carrying forward the present research. It had always been a matter of grave doubt in my own mind whether the exceptionally gifted of earth were better or worse than the ordinary run of mankind. Examples like Napoleon, Bacon, Byron, and Catherine II

* "Studies Scientific and Social." Lond. 1900, vol. i, p. 509.

of Russia, come to mind, and then we all have a feeling that the very good are perhaps a little simple-minded, and besides, according to tradition, they "die young." This pessimistic view of things is, however, not borne out by the facts.

Analyzing all the grades, we find that the higher grades for virtues possess a higher average of intellectual grading, and that this rise is almost perfectly uniform for both male and female groups taken separately. An average of the two makes a curve that leaves practically nothing to be desired. There is every reason to believe that if the total were great enough the figures would make a perfectly smooth rise.

FEMALES.

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Average intellectual grades	5 28	5.00	5.66	5.76	5.19	5.69	5.89	6.29	6.78	7.33

MALES.

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Average intellectual grades	2.56	3.68	5.20	5.27	5.38	5.62	5.85	6.44	6.54	7.33

BOTH SEXES (AVERAGED).

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Average intellectual grades	3.92	4.34	5.43	5.51	5.29	5.66	5.87	6. 37	6.66	7.33

The figures below give us a more exact mathematical expression of the actual correlation between mental and moral quantities worked out by Pearson's method for qualities not quantitatively measurable, and expressed as

a coefficient or r, which in this case is found to equal .3403. In Chapter XVIII the coefficients for heredity have been found by the same method which is there explained. This decimal is lower than most of the correlation coefficients in man. It is, however, greater than that for breadth and height of skull. It is about the same as that for strength of pull and stature, which is given as from .22 to .30, or strength of pull and weight, from .34 to .54.*

Mental and Moral Qualities.

MALES.

MORAL QUALITIES.

MENTAL QUALITIES.	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	1	2	19	21	29	31	32	28	16	11
	Below the mean ...	8	17	16	30	46	22	20	13	8	1

FEMALES.

MORAL QUALITIES.

MENTAL QUALITIES.	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	3	2	7	12	21	21	13	14	12	4
	Below the mean ...	4	6	11	13	38	25	13	10	6	2

BOTH SEXES.

MORAL QUALITIES.

MENTAL QUALITIES.		Below the mean.	Above the mean.	Totals.
	Above the mean ..	117	182	299
	Below the mean ..	189	120	309
	Totals.....	306	302	608

giving $h = .0082460$ $H = .3989218$

$k = .0206188$ $K = .3988503,$

and the equation:

$$34612 = r + .000085\, r^2 + .166477\, r^3 \ldots$$

the root of which is

$$r = .3403 \pm .0419.$$

* Pearson's "Grammar of Science," revised ed., 1900, p. 402.

The average number of children who reached adult (21) years born to each grade is seen below to give figures representing a rise, though a less smooth curve. This is probably due to an insufficiency in the total number, though I feel that this cannot be dogmatically asserted.

FEMALES.

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10
Average No. of adult children	1.43	2.13	2.50	2.32	3.24	3.73	3.20	2.61	3.73	3.50

MALES.

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Average No. of adult children	1.88	3.58	3.48	2.49	3.63	3.25	2.90	3.44	4.13	4.09

BOTH SEXES (AVERAGED).

Grades for virtues.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Average No. of adult children	1.66	2.86	2.99	2.41	3.44	3.49	3.05	3.03	3.93	3.80

Such figures drawn from royalty, in regard to the fertility of different grades, can have, of course, but a slight bearing on the question of race suicide agitated at the present time. They do show, however, that, unhampered by restraint, as is fair to suppose has been the case among royalty where large families are always desired, maximum fertility does on the whole run hand in hand with general superiority. Nearly all the figures which have heretofore been compiled upon the question deal

only with the number born and not with the number reaching adult years, and are consequently of absolutely no significance. It is a well-known biological principle that the lower the species the greater the number of offspring, but among the different members of any social scale, our foreign immigrants for instance, very likely it would be found on close inquiry that, *inter se*, the relatively superior are the ones who are parents of the greater number of children whom they are successful in bringing to mature years. There are many reasons, both medical and economic, why the children of the more vicious and depraved should die in the greater numbers. This, in the long run, must raise the moral average, and as mental qualities are correlated with the moral, the intellectual level must at the same time be raised.

Besides these problems touching upon natural selection, there is another question upon which I wish to say a few words. I refer to the opinion so generally entertained regarding the psychological effect of the inheritance of great financial wealth. Wallace in his "Studies Scientific and Social," Vol. II, p. 519, in a paragraph headed "Hereditary Wealth Bad for its Recipients," writes:

"There is yet another consideration which leads to the same conclusion as to the evil of hereditary or unearned wealth — its injurious effects to those who receive it, and through them to the whole community. It is only the strongest and most evenly balanced natures that can pass unscathed through the ordeal of knowing that enormous wealth is to be theirs on the death of a parent or relative. The worst vices of our rotten civilization are fostered by this class of prodigals, surrounded by a

crowd of gamblers and other parasites who assist in their debaucheries and seek every opportunity of obtaining a share of the plunder. This class of evils is too well known and comes too frequently and too prominently before the public to need dwelling upon here; but it serves to complete the proof of the evil effects of private inheritance, and to demonstrate in a practical way the need for the adoption of the just principle of equality of opportunity."

That instances of this sort do come too frequently before the public I do not deny. The vices of the aristocracy are always made the most of by the polychrome daily press; but if Mr. Wallace or any one else has any data to show that vices among the rich are proportionally more frequent than among people in general, I have never seen such a proof. It is an assertion entirely unwarranted by any facts. It may be merely a popular fallacy which will probably be entirely abandoned as soon as sociology has properly collected data bearing on modern life. In the first place, it is unlikely on *a priori* grounds. Wealth, like most things in life, is essentially relative. To the young man who is to inherit a few thousand dollars, if he belongs in the middle classes, the amount seems as much to him as the same number of millions to one whose friends all have riches. There are plenty of temptations within the reach of all classes of society, and many demoralizing amusements come cheap. Besides, if this view of the evil effects of great wealth were true, royalty, who are among the richest of the world's favored few, should make a poor showing from the general standpoint of morality. Although we may think at first sight that this is the case, I feel that I have been able to show

in the former chapters in this work, that the bad characters practically always come as close relatives of others of the same stamp, and due to heredity with perhaps some influence from environment. They certainly cannot be explained on the ground of riches, as here all are rich. Furthermore, royalty does not make a bad showing when taken as a great group. From the intellectual side they are distinctly above the average, and this eight hundred contains more great names than probably any other collection of related people that could be gathered together, certainly more than the general run of Europeans. Even the greatest leaders among them were born in all cases to extremely high positions. An idea of their moral standard may best be gained by looking at their mean or (5) and (6) grades. Among the more modern and best known in these grades are the late Humbert, King of Italy, William .I, German Emperor, Frederick William IV, of Prussia, Louis Philippe, and Francis Prince de Joinville, his son; doubtless men with faults, but at the same time men with certain decidedly praiseworthy traits, and in most instances men who led active lives, certainly not degenerates or loafers.

Conclusions. — There is a very distinct correlation in royalty between mental and moral qualities. If this is true among them, there is reason to believe it probably true in every class of mankind. Among society in general it is easy to see how the vicious and depraved are more likely to be eliminated than the domestic and unselfish. Arguments, then, which prove that an improvement is going on in the general *morality* of any class or race must prove at the same time, in view of this correlation, an increase in the standard of *mental* faculty. The

probability is that there are at work forces of natural selection of which we know little of the value as yet, but which are such that setting aside all influences of environment, whether we will or not, the natural quality of humanity must progress.

CHAPTER XVIII

Regression to the Mean, Correlations and Conclusions

a. Mental Qualities

By taking the records of each country separately and analyzing them minutely, we have seen how almost perfectly established heredity appears to be as a cause of decided mental and moral peculiarities, wherever found. Instead of treating each country separately, the entire number of interrelated persons will now be studied as if they were arranged on a single chart, according to blood relationship. If such a great chart were constructed, we should see the geniuses, or (9) and (10) grades, not scattered at random over its entire surface, but isolated little groups of (9) and (10) characters (the individuals within each group contiguous to each other) would be found here and there. One such group would be seen centering around **Frederick the Great,** another around Queen **Isabella,** of Spain, another in the neighborhood of **William the Silent,** and still a fourth with **Gustavus Adolphus** as a center. These would constitute the largest groups of closely related (9) and (10) characters. There would also be a few other groups of two or three geniuses each.

Those in the lowest grades for intellect would also be found close to others of the lowest type, and would fall

especially in Spain and Russia, in which countries we have seen an inherited insanity. There would be certain regions composed almost entirely of grades from (4) to (7). These would cover the greater part of the chart and include the houses of Hanover, Saxe-Coburg-Gotha, Reuss, Mecklenburg, Hapsburg in Austria, Holstein, Denmark, Saxony, Savoy, Orleans, and modern Portugal.

The problem we have now before us is to determine if those occupying the different grades have more and more of the illustrious — (9), (10) — relations as we ascend the scale; or in other words, do the persons in grade (6) have more close relations in the two highest grades than those in (5) have; those in (7) more than those in (6), and those in (8) more than those in (7); and finally, do those in (9) and (10) have the greatest number of illustrious relations of their own type?

This is easily determined by making a count of the number of illustrious or (9), (10) close blood relations which each person possesses and then averaging the totals for each grade. In this way it has been found that as a matter of fact, the grades from (1) to (6) can all claim about the same number of "eminent" or (9), (10) close blood relations, but the higher grades, (7) to (10), show a very marked rise for both the males and females, taken separately. The method of obtaining these curves which show a rise on the right-hand side of the chart in Plate I, will now be explained.

I first took each name in grade (10) for intellect, and found the number of relations in grades (9) or (10) for intellect who stood as close in kinship to the person in question as what I call the second degree of relationship.

By this I mean as close a relation as a grandparent, uncle, aunt, grandchild, nephew, or niece. In this count were included all those who stood closer than this,

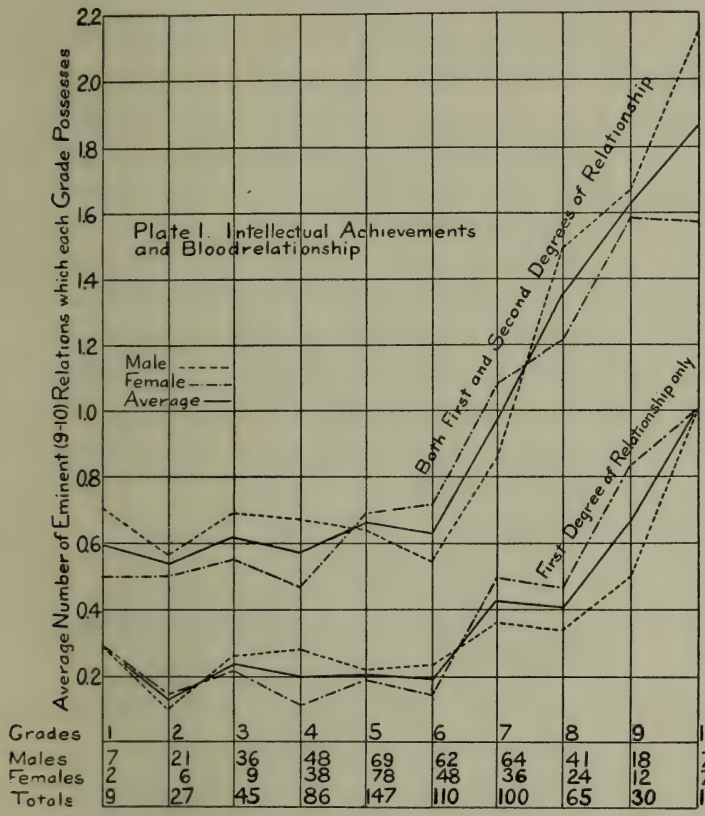


Plate I. Intellectual Achievements and Bloodrelationship
Average Number of Eminent (9-10) Relations which each Grade Possesses
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Male
Female
Average
Both First and Second Degrees of Relationship
First Degree of Relationship only
Grades 1 2 3 4 5 6 7 8 9 10
Males 7 21 36 48 69 62 64 41 18 7
Females 2 6 9 38 78 48 36 24 12 7
Totals 9 27 45 86 147 110 100 65 30 14 633*

such as a parent, son, brother, or sister. Cousins and other more distant relations were left out of the count entirely.

In the upper right-hand corner of Plate I, we see the

* Made from the 633 cases first collected and published in *Popular Science Monthly*.

curves for "Both First and Second Degree of Relationship." These give the result of this first count. The dotted line in the extreme upper part of the chart lies a little above the level of the mark 2.0, meaning that the males in grade (10) averaged over 2 "eminent" relations apiece. It will be seen that the line falls to a little more than 1.6 when we collect the "eminent" relationship of grade (9). Grade (8) averages less, and grade (7) still less, while the grades from (6) to the lowest, all show an "eminent" relationship not far from .6. A second count was then made, similar to the first, but including only the closest blood relations or those of the "first degree." Under its head I included a father or mother of the individual, or a brother, sister, son, or daughter, but none of more remote kinship.

The details for the construction of both sets of curves for the two upper male grades are given below, for the sake of a more complete explanation.

Grade (10) for intellect contains (Plate I) only fourteen persons. The names of the seven men are here given as a sample, together with the eighteen who belong to grade (9). Probably few will question the right of the following to enter these elect grades, though some might place one or two a grade higher or lower. The number of relations in the (9) or (10) grades which each person possesses is placed on the left, the first figure being for the "first and second degree," the second figure being the number in the "first degree" alone or the number of (9), (10) relations as close as father and son, or brother and sister.

GRADE (10) (NAMES ALPHABETICALLY).

1.1. Bourbon, Condé, Louis II, "the Great Condé."
4.1. Orange, William the Silent.
1.1. Portugal, John I, "the Great."
0.0. Prussia, Hohenzollern, Frederick William, the Great Elector.
6.3. Prussia, Frederick the Great.
1.0. Sweden, Gustavus Vasa, Founder of the Dynasty.
2.1. Sweden, Gustavus Adolphus, "the Great."

15.7

There are seven men in this grade.

The fractions $\frac{15}{7}$ and $\frac{7}{7}$ give us the averages 2.14 for first and second degree, and 1.00 for first degree only, found on Plate I. (See dotted lines for males.)

GRADE (9).

1.0. Austria, The Archduke Charles, who commanded against Napoleon, b. 1771.
1.0. Don John, of Austria. Celebrated commander.
1.1. Austria, Maximilian I, Emperor, b. 1459.
3.1. Bourbon, Henry IV, King of France.
0.0. Gaspard de Coligny. The great admiral of France.
1.0. Alexander Farnese.
6.3. Hohenzollern. Henry, brother of Frederick the Great. Considered by many to be the equal of Frederick.
4.1. Orange, Maurice, of Nassau. One of the greatest captains of modern times.
1.0. Orange, William III, King of England.
0.0. Portugal, Alfonso I, Founder of the Kingdom.
1.0. " Dennis, "Father of his Country."
1.1. " Henry "the Navigator," celebrated as a mathematician. Son of John "the Great."
1.1. Romanoff, Peter the Great, of Russia.
0.0. Savoy, Prince Eugene, celebrated general.

1.0. Saxony, Maurice, Elector of, celebrated general.
0.0. Sweden, Charles XII, military genius.
5.1. Sweden, Gustavus III, extraordinary mind. His large eminent relationship is Hohenzollern, due to his being a nephew of Frederick the Great.
3.0. Tour. Great Turenne, celebrated commander.

30.9

Since there are eighteen persons in this group, the fractions $\frac{30}{18}$ and $\frac{9}{18}$ give us the averages 1.67 and .50 seen in Plate 1 to be the figures for grade (9).

Let us now return to Plate 1 and compare the two sets of curves. It will be seen that the upper set of curves run from the .6 point on the left to about 1.7. That is, the geniuses have $\frac{1.7}{0.6}$ or about 2.83 times as many relations who are geniuses as the mediocrities have relations who are geniuses. This is when we consider "Both First and Second Degree of Relationship." But now if we consider the "First Degree of Relationship Only," we find that the curves run from about the level of .2 up to about 8.5. This gives us a ratio between the two ends of this curve represented by the fraction $\frac{8.5}{2.0}$ or 4.25. The ratio between the ends of the other, or upper series of curves, was found to be about 2.83. Thus the first degree of relationship is stronger than the second, as we should expect from pure hereditary influence. The two degrees of relationship lie in the ratio to each other represented by the figures 4.25 and 2.83. In other words, the upper curves show but .6659 as much hereditary influence as the lower.

With regard to the relationship between genius and

insanity, it is to be observed that the lines do not fall off as we go from the mediocre to the lowest grades (in which those showing mental unbalance have in general been placed). This confirms the results obtained by Havelock Ellis in his "Study of British Genius," * that there is a slight relationship between genius and insanity, though nothing like as much as claimed by Lombroso.

The curves show that we have an almost perfect rise in eminent relationship as we ascend from mediocrity to the highest scale. This is true for both the males and females. The average of both sexes smoothes out the curve and gives an even more regular rise than is given by each sex separately. It is to be remembered that such facts mean a great deal, since were the geniuses scattered over the entire number, without any law of distribution in regard to blood — as I claim they should be in royalty, from the effect of environment on the intellectual side at least — there would be instead a reverse of the facts, or an actual falling off in percentage of eminent relations among the higher grades.

This can be made clear by considering any one instance. Take the case of **Catherine II,** of Russia. All her near relations receive one count for being related to her, yet she herself receives no count, since none of her near relations stands in a (9) or (10) grade. The same would be true of **Frederick the Great** were he the only one in his immediate family who belonged to a (9) or (10) grade. As a matter of fact he counts six such relations.

* *Popular Science Monthly*, April–September, 1901.

Correlation in Successive Ascending Generations

In order to obtain numerical results and a more exact criterion for comparison of theory with observation, I have calculated correlation coefficients by the Galton-Pearson method.*

The coefficient of correlation, so-called, is one measure of the degree of resemblance which one generation bears to another, on the average, in a large number of cases. It is found by means of a complicated mathematical process, is sometimes called "Galton's function," and is always symbolized by the letter r. According to the Law of Ancestral Heredity as originally stated, the theoretical value of r between offspring and parent should be $r = .3000$, between offspring and grandparent $r = .1500$, between offspring and great-grandparent $r = .0750$.†

From a large number of quantitative measurements of physical traits, such as color of the hair and eyes, stature, etc., it is known that these theoretical figures "fit the observed facts fairly well," at least "whenever the sexes are equipotent, blend their characters and mate pangamously." ‡ The third of these requirements, that they mate pangamously, is probably better fulfilled among royalty than among human beings in general, for we all know that royal marriages are contracted by persons other than those most directly concerned, or are arranged in accordance with some political policy.

Among commoners it has been proved by Pearson that

* A readable account of this and similar methods, given by R. P. Bigelow, may be found in Buck's "Reference Handbook of the Medical Sciences," article, "Variation."

† See Pearson, "Grammar of Science," 1900, p. 479. (Taking $\gamma = 1$.)

‡ Pearson, *Ibid.*

man does not mate pangamously, but that "like tends to choose like." In other words, we find among mankind assortive mating. This was found true for two very distinct characters, stature and eye-color, where Pearson calculated the resemblance between husbands and wives as high as $r = .2872$ and $r = .1002$. "*In fact, husband and wife for one of these characters are more alike than uncle and niece, and for the other more alike than first cousins.*" The result of assortive mating or homogomy is, of course, to raise the value of r between offspring and any direct ancestor, since the existence of homogomy assures that any quality possessed by an offspring's father will also be found in more than average amount in the offspring's mother. This may be one reason why the coefficient of correlation for stature between offspring and parent has been observed to range between $r = .3000$ and $r = .5000$, instead of $r = .3000$ which theory demands. Although assortive mating is probably slight among royal couples, it cannot be held to be entirely absent, as might be supposed, from a consideration of the motives lying behind royal matches. My own figures are too small to give conclusive results on this point, but I have correlated the intellectual grades of 229 couples and have found $r = .08$ approximately with a probable error, however, of $\pm .076$. At least it would seem, both from general considerations and from such figures as we have at hand, that the force of assortive mating is less in royalty than among couples in general. With regard to the equipotency of the sexes, it has already been shown by various observers, that for such physical traits as have already been measured, the sexes are approximately equipotent. Differences may exist,

but these are small, and would not conspicuously affect the main conclusions drawn in the present research.

Acording to Pearson, the third stipulation in the Law of Ancestral Heredity, as first enunciated, is that the characters freely blend.* This requirement, however, is not fulfilled. The entire evidence in this research as we study families minutely and separately, seems to be that both mental and moral qualities more often than otherwise do *not* thoroughly blend, but give us many examples of at least partial alternative inheritance. In spite of this condition, there is no reason why we should not seek to apply the Law of Ancestral Heredity to our present problem, since it was with the colors of basset hounds as material and other non-blending color characters that Galton first formulated his law. The existence of alternative inheritance or the absence of pure blends should lead us to expect a somewhat higher value for *r*.†

Let us now compare theory and observation drawn from our own figures for intellectual grades, taken from royal families. It is necessary to state at the start that I have adhered to a rigid rule regarding the inclusion of cases

* " Grammar of Science," 1900, p. 495.

† It may occur to some of my readers who are acquainted with modern biological theories, that these psychic traits, being examples of *alternative* inheritance, should form an excellent field for the illustration of Mendel's laws of heredity. This may be true. One of the cardinal principles, however, of Mendelism is the existence of "dominant" and "recessive" types. I have not been able to detect this phenomenon.

Although the mind seems in its inheritance to roughly obey the principle of *alternative* inheritance and thus indicate segregation in the germ-cells, I do not feel that this is sufficiently clearly defined to enable one to classify according to hard and fast types, as is possible in dealing with the features of certain plants and animals, like the colors of mice, whether albino or gray; or the shapes of peas, whether round or angular. For these reasons I have not attempted to apply Mendel's principles. *Conf.* W. Bateson, "Mendel's Principles of Heredity, a Defence." Camb. 1902.

for observation. I have looked up the entire male ancestry to the third generation of all offspring, if such offspring belong to any of the houses which have been traced in the male line. In a very few cases it has not been possible to find anything about a certain grandfather or great-grandfather. Such an individual has then been taken at (5), which is slightly below the average. This must approximate the truth very closely, for any one will admit that members of royal families, who were above the average of their fellows in mental endowments, would find some slight mention at least in the large biographical dictionaries or local histories.

It must also be explained that, because the grades do not necessarily represent quantitative measurements, for we do not know that grade (4) is twice as intellectual as grade (2), etc., we cannot correlate the generations after the same method as that for stature or some trait which can be measured accurately. I have, therefore, made use of the "fourfold correlation table" or the method described by Pearson for the correlation of characters not quantitatively measurable.* I have divided all the offspring into two classes: first, those below the average, or those from (1)–(5) inclusive; and second, those above the average, or from (6)–(10) inclusive. The ancestors were divided in the same way.

According to Galton's Law of Ancestral Heredity, the theoretical value of the decimal which expresses the correlation between parent and offspring is, as already stated, $r = .3000$.† My own figures for 504 cases give as close as $r = .3007$, with a probable error $\pm .0472$. For

* Phil. Trans. A., vol. 195, 1901, (*a*) pp. 1–48.

† See Pearson, "Grammar of Science," p. 479. (Taking $\gamma = 1$.)

the correlation between offspring and grandfather, theory calls for the coefficient $r = .1500$, or one-half that for parent and offspring. My figures for 952 cases give this coefficient $r = .1506$, with a probable error of $\pm .0369$. These are both remarkably close to theory.*

I, then, to make a more crucial test, correlated the offspring with their three maternal great-grandfathers. The great-grandparents of a man flourished in a different century, and among royalty we all know that the great-grandfather in the various maternal lines usually lived in other countries and at other courts. So that while the son and father are perhaps subjected to similar environments, we should expect the surrounding influences of the three maternal grandfathers living in another age, and often in other lands, to be on the average dissimilar to those encompassing their grandsons. Of course, we cannot be sure that the environments of the maternal grandfathers would not bear some slight measurable resemblance to that of their distant offspring, even as far distant as a great-grandson living in another part of the world. But it seems fair to assume that this influence would at most be very slight.

As each offspring has three great-grandfathers related to him through some female link, we have more than a thousand cases, a number usually considered quite sufficient in such investigations. I found 393 offspring who

* It must be said in passing, that the theoretical .30 for parent, and .15 for grandparent, have not been realized from such observations among animals and plants as have been already collected. Thus parent correlation is about .45, and grandparental range from. 13 to .33. These higher values may be due to special causes (high inbreeding, assortive mating, etc.). My own figures must stand for what they are worth. It is at least interesting that in four instances out of five, observation fits theory almost exactly. See C. B. Davenport, "Statistical Methods," 1903, p. 81, for various observed values of r.

could be so utilized. There were 504 available in calculating the correlation between *parent* and offspring. The reason why fewer *offspring* enter the correlation table with great-grandparents is that in each house the first, second, and third generations after the foundation of the family are not used. It is not until the fourth younger generation from the first member of the family whom I have taken a record of, that the offspring begin to *have* great-grandfathers whose records have entered my research. From then on, all offspring are included. Since the individual has three maternal grandfathers, the total number of pairs is 1,179, or three times the number of offspring. These give a correlation coefficient of $r = .1528 \pm .0332$. This is much higher than the theoretical $r = .0750$. Here for the first time, we are able to observe the intellectual achievements of two groups of human beings who lived about a century apart from each other, usually in other surroundings, and frequently in parts of Europe quite remote from each other, yet who *are* associated with each other in one point, and that blood connection. Will this force, the mechanism of heredity, residing in the nuclei of the germ-cells, be strong enough to cause these two groups of distantly related kin to resemble each other in as great a degree as two groups of similarly related animals resemble each other in some measurable trait? Or, in other words, resemble each other as much as theory demands? We find that they do resemble each other, and even more than is to be expected. What is the cause of this increase?

Assortive mating would increase the coefficient of correlation, but we have seen that these decimals r, representing correlation, are not increased for parent, and but

slightly for grandparent. It is more probable that this coefficient is found to be increased in the case of offspring and great-grandparent by in-and-in breeding which is the practice everywhere among European royalty. We should expect the grandparent coefficient to be also increased, if this view is correct. It does not appear to be much increased, being .1606 instead of .1500. The probable error for the smaller number of cases, 952, shows that it is likely to be anything up to .1975. The same applied to the great-grandparents gives as our lowest probable limit .1186, which is considerably above .07500, the figure demanded by theory.

The importance of all these figures, however, lies in this: If environment be a strong force in mental life, it should tend to mold the closer relations to type at the expense of the more distant relationships; while here we find the reverse to be the case. It should increase the parental correlations and diminish the great-grandparental. On the contrary, through all the vicissitudes of fortunes and events, the great-grandparents appear to have been able to furnish their full quota of resemblance and to make their own peculiarities felt. It seems absurd to consider that three distinct great-grandparents who resided at other courts, and lived certainly about a hundred years previous to their offspring, could resemble them through influences of similar surroundings. We must then consider the resemblances to be brought about through the germ-cells alone; and it is a striking proof of not only the wonder, but the reliability of this special mechanism.

I have treated the moral qualities in the same way as the mental. Correlation figures have been drawn for

two succeeding generations, namely, offspring with parent and offspring with grandparent. Owing to the lack of data I did not carry the work farther. For these results I utilized the grade figures which I already had on hand, and which have been employed throughout the research. There were 494 pairs which could be used for correlating offspring and father, and 770 for offspring and grandfather.

The results here are in striking agreement with those drawn from mental traits.

Offspring and fathers gave us $r = .3007$ for mental qualities, and here we find .2983 for moral.

Offspring and grandfathers gave us .161 for mental qualities, and now we obtain .175 for moral.

In order to find, if possible, a sensible influence of environment on the formation of moral traits, I separated the paternal and maternal grandparents into two separate groups. The maternal grandfather, much more frequently than the paternal, must have lived at another court and under different surroundings. The correlation for the paternal grandfather was found to be approximately .13, and for maternal .21. The probable errors are about ± .06, so that I did not think it worth while to work the figures out accurately. It would at least appear that no evidence can be drawn from *this* source that environment sensibly modifies moral nature. So far as the figures go, the offspring are even more like their maternal grandparents, under whose roof they did not live, than they are like their paternal grandsires, who, by creating an atmosphere in their courts, good or bad as the case might be, might have been supposed to have in some degree molded the character of their descendants.

Mathematical literature concerning the inheritance of psychic characteristics is very meager. It is, nevertheless, contributory to the present argument to mention the results obtained by Professor Karl Pearson for correlations of mental traits between brothers.* For this relationship, measurements of physical traits had already shown $r = .5000$, a ratio amply sustained by his observations in the domain of mental and moral qualities. Pearson's conclusions concerning this research have been criticised † on the ground that the resemblances found (in this case among school children) were due in part, perhaps in a large part, to similarities in environment, home influence, etc. Pearson justly replies to his critics: Why should these outward influences give just .5000? Let them calculate the mathematical chances against such a coincidence. And he also appeals to the law of parsimony, which holds one cause to be better than several, if that one explains all the facts.

I believe Pearson's conclusions to be correct, for here among several different relationships under different degrees of environmental similarity we find the correlation coefficients sturdily holding their own.

The tables below give in greater detail the figures from which the coefficients are drawn, and it can be seen that not only are the final observations in accordance with theory, but that the numbers associated with each grade are confirmatory almost without exception.

Thus in the first table, ascending the scale of offspring from grades (1) to (10), we find a greater and greater proportion of their fathers above the mean.

* Biometrika, vol. iii.

† See *Popular Science Monthly*, December, 1903, vol. lxiv, p. 191; and C. Spearman, *American Journal of Psychology*, vol. xv, pp. 72–101.

Offspring and Fathers (Mental Qualities).

OFFSPRING.

FATHERS	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	3	9	15	27	46	53	44	27	18	8
	Below the mean ...	5	15	28	47	56	45	36	17	3	2

OFFSPRING.

FATHERS		Below the mean.	Above the mean.	Totals.
	Above the mean ..	100	150	250
	Below the mean ..	151	103	254
	Totals.....	251	253	504

giving $h = .0049736$ $H = .3989375$
$k = .0099472$ $K = .3989225$

and the equation:

$$.30526 = r + .0000247\, r^3 + .166645\, r^5 + \ldots$$

the root of which is

$$r = .3007 \pm .0472.$$

Offspring and Grandfathers (Mental Qualities).

OFFSPRING.

GRAND-FATHERS	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	5	17	35	63	76	72	75	49	25	11
	Below the mean....	11	31	49	83	120	108	77	25	13	7

OFFSPRING.

GRANDFATHERS		Below the mean.	Above the mean.	Totals.
	Above the mean ..	196	232	428
	Below the mean ..	294	230	524
	Totals.....	490	462	952

giving $h = .0368692$ $H = .3986711$
$k = .1267229$ $K = .3957518$

and the equation:

$$.16136 = r + .00233\, r^3 + .16377\, r^5 + \ldots$$

the root of which is

$$r = .1606 \pm .0369.$$

Offspring and Great-Grandfathers (Mental Qualities).

OFFSPRING.

GREAT-GRANDFATHERS	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	6	26	38	68	96	72	78	41	26	14
	Below the mean ...	15	46	73	130	165	132	78	40	25	10

OFFSPRING.

GREAT-GRANDFATHERS		Below the mean.	Above the mean.	Totals.
	Above the mean ..	234	231	465
	Below the mean ..	429	285	714
	Totals.....	663	516	1179

giving $h = .1569088$ $H = .3940573$

$k = .2678537$ $K = .3848836$

and the equation:

$$.15373 = r + .021014\, r^2 + .15089\, r^3 + \ldots$$

the root of which is

$$r = .1528 \pm .0332.$$

Offspring and Fathers (Moral Qualities).

OFFSPRING.

FATHERS	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	4	6	14	30	44	40	35	29	22	10
	Below the mean ...	12	18	32	35	62	34	26	24	13	4

OFFSPRING.

FATHERS		Below the mean.	Above the mean.	Totals.
	Above the mean ..	98	136	234
	Below the mean ..	159	101	260
	Totals.....	257	237	494

giving $h = .0507637$ $H = .3984284$

$k = .0660134$ $K = .3980740$

and the equation:

$$.30296 = r + .001675\, r^2 + .16509\, r^3 + \ldots$$

the root of which is

$$r = .2983 \pm .0498.$$

Offspring and Paternal Grandfathers (Moral Qualities).

		Offspring.									
Paternal Grandfathers	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	5	6	13	21	36	26	29	18	15	8
	Below the mean ...	9	15	29	31	54	40	27	28	15	5

Offspring and Maternal Grandfathers (Moral Qualities).

		Offspring.									
Maternal Grandfathers	Grades	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Above the mean ...	1	10	9	14	26	27	21	13	9	8
	Below the mean ...	9	8	22	32	46	24	23	21	14	3

		Offspring.		
Grandfathers (Both)		Below the mean.	Above the mean.	Totals.
	Above the mean ..	141	174	315
	Below the mean ..	255	200	455
	Totals.....	396	374	770

giving $h = .035817$ $H = .398683$

$k = .229890$ $K = .388534$

and the equation:

$$.17606 = r + .00823\, r^2 + .15766\, r^3 + \ldots$$

the root of which is

$$r = .175 \pm .041.$$

The reasons for the belief that heredity is almost the entire cause for the mental achievements of these men and women, and that environment or free-will must consequently play very minor rôles, may now be summarized: First, the practically perfect results derived from what might be expected of heredity, both from the internal study of the families separately, and from the curves

and coefficients of correlation. Second, the fact that environment or opportunity would not cause, in royalty at least, the great names to occur in close blood connection with others of the same stamp.

It is worth while to look a little further into the question of the effect of environment, and see on what the above assertion rests. We may first consider the effects of education. Royal members have by no means all been equally blessed with the advantages of that best education which we might naturally expect would fall to them by right of their position and great wealth. For various reasons some have been more fortunate than others. Some have been intentionally neglected in childhood, as a result of political intrigues and ambitions, while others have been most fortunate in obtaining, from youth onward, all the advantages which should make a man rise to prominence and intellectual strength. These advantages and hindrances must have always been of an accidental character, depending on various causes, and their distribution would occur largely at haphazard throughout the entire number of collected persons (832); and could not account for the great group of mediocrity and inferiority, like the houses of Hanover, Denmark, Mecklenburg, and latter Spain, Portugal, and France.

Heredity, however, does account for these families as well as for the exceptionally gifted persons; and, furthermore, the advantages and disadvantages of education appear to have introduced no error from expected inheritance, either in the study of separate families or in the more exact figures drawn from larger groups.

The two fields of activity in which royalty have most distinguished themselves, have either been military lead-

ership, or leadership in affairs of state. Most princes have held high official positions in the army, and by birth have been admitted to the House of Lords, or whatever council corresponds to this aristocratic branch of the government. These advantages would undoubtedly be distributed at random throughout the entire number, and could not produce the grouping by close blood relationship found throughout this entire study.

There is one peculiar way in which a little more than half of all the males have had a considerable advantage over the others in gaining distinction as important historical characters. The eldest sons, or if not the eldest, those sons to whom the succession has devolved, have undoubtedly had greater opportunities to become illustrious than those to whom the succession did not fall by right of primogeniture. I think every one must feel that perhaps much of the greatness of Frederick II, of Prussia, Gustavus Adolphus, and William the Silent, was due to their official position; but an actual mathematical count is entirely opposed to this view. The inheritors of the succession are no more plentiful in the higher grades than in the lower. The figures below show the number in each grade who came into power by inheriting the throne.

Grades.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total No. in each Grade .	7	21	41	49	71	70	68	43	18	7
Succession Inheritors	5	14	26	31	49	38	45	23	8	4
Per cent	71	67	63	64	69	54	67	54	67	57

It is thus seen that from 54 to 71 per cent inherited the succession in the different grades. The upper grades are in no way composed of men whose opportunities

were enhanced by virtue of this high position. Thus we see that a certain very decided difference in outward circumstances — namely, the right of succession — can be proved to have no effect on intellectual distinction, or at least so small as to be unmeasurable without much greater data. The younger sons have made neither a poorer nor a better showing. A similar conclusion regarding the negative effect of environment would probably be reached if we should make a statistical study of these men in relation to the needs or demands of the time.

If conditions of turmoil, stress, and adversity are, as some believe them to be, strong forces in the production of the great man, there is no evidence from the study of royalty to support such a view. Wars have been in progress during most of the period covered in these pages. Sometimes the royal hero has made his appearance, but more often he has not. It was not alone in the days of Henry IV, of France, and Gustavus Adolphus of Sweden, that the times called for great men. The times are continually calling for great men. Never did a dying country call more urgently than Spain in the last three centuries, yet none has yet appeared. Italy had to wait fifty years in bondage for her deliverers, Cavour, Garibaldi, and Victor Emanuel. England could not get a good Stuart, but in a descendant of William the Silent she found a hero in William III.

The upshot of it all is, that as regards intellectual life, environment is a totally inadequate explanation. If it explains certain characters in certain instances, it always fails to explain as many more; while heredity not only explains all (or at least 90 per cent) of the intellectual side of character in practically every instance, but does so

best when questions of environment are left out of the discussion.

There is a well-known principle of logic known as the law of parsimony, which states that we should not introduce more, or more onerous causes for a phenomenon than are necessary for its explanation. Or in other words, it is better to ascribe one cause than several, if any one cause can be shown to be adequate.

Therefore, it would seem that we are forced to the conclusion that all these rough differences in intellectual activity which are susceptible of grading on a scale of ten are due to predetermined differences in the primary germ-cells.

b. Moral Qualities

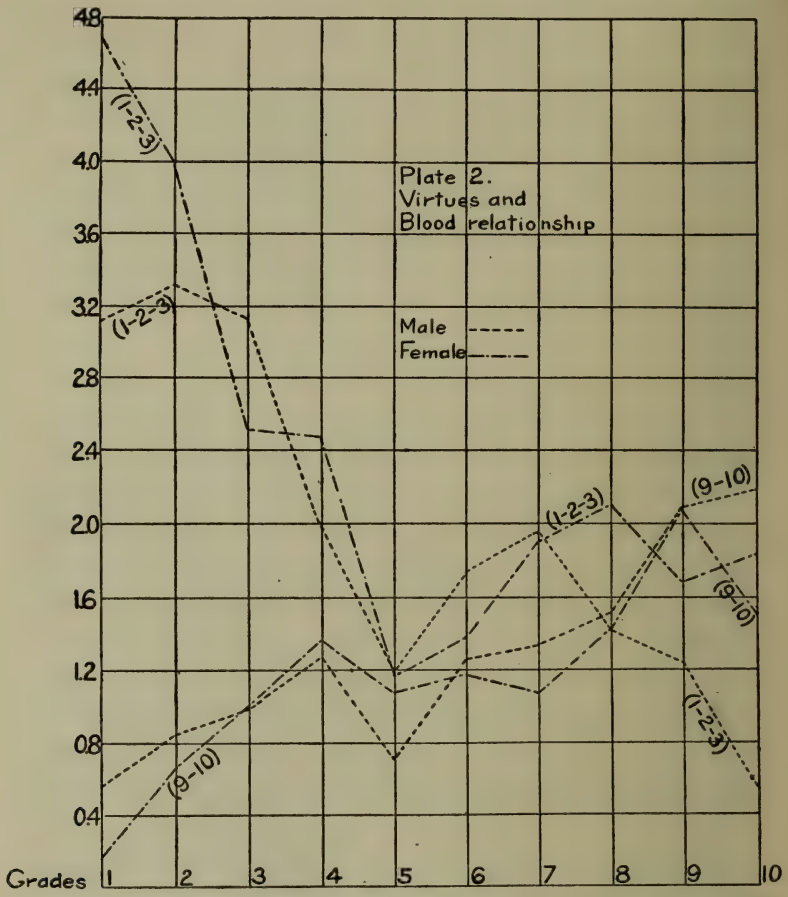
It is more difficult to analyze moral than mental qualities, and it is more difficult to arrange them in an impersonal grading. But the results obtained speak no less clearly and unequivocally for heredity as the major cause; though no one supposes that moral education and training are without *some* effect on the formation of character.

That these outward circumstances have as much influence as is commonly supposed, or as much as predetermined and congenital causes, are, however, conclusions from which we are forced to dissent, on account of the various considerations which will now be discussed.

Let us turn to Plate 2, where the gradings for morality are traced in their relationship to blood.

I have counted the number of altruist — or (9) and (10) — relations which each person possessed, who stood in as close relationship to the person in question as what I have already called the "Second Degree of Relation-

ship." Then I have struck an average for each grade and found a definite and rather perfect rise in (9) and (10) relationship as we ascend from the lower to the higher



grades. Plate 2 shows that the two dotted lines marked (9–10), one for males and one for females, which begin in the lower left-hand corner, rise pretty regularly from left to right. The two highest grades have about four

times as many relations of their own superior worth as the two lowest grades can claim.

I then counted the number of *moral "deviates,"* or those in grades as low as (3), which each person possessed as a relative, and found that, on the average, the lower grades had many more of this unfortunate ilk than had the mediocre and higher grades.

The dotted lines marked (1–2–3) give us a great falling off, which may be traced until we reach grade (5), when we see, curiously, a slight rise. Grade (5) not only has a low average of blood relationship with the degenerate type, but also with the altruistic, and this probably means that many were placed in grade (5) because little could be found relative to their moral character. These persons are naturally the ones who have lived in countries, or during periods, the history of which is more or less obscure. They would consequently, living in a comparatively obscure age or land, have more close relations about whom we could not discover much material for the estimation of morality. These relations (to the members in grade (5)) might have really been extreme variations from the mean, and yet have been overlooked entirely.

Nevertheless, the curves on Plate 2, with the exception of grade (5), give us results such as we might expect were heredity the sole cause, pure and simple, for moral character. Also it must not be forgotten that the values of r as given on pp. 282–3, are likewise in perfect agreement.

But we must not forget that environment might also give curves of distribution of a similar nature (though it is doubtful if r would be of the same value). Home influence and the atmosphere of their life at court would be

better in those families where the individuals have had the greatest number of close blood relations of the better type. Likewise the degenerates, whom we have proved to have had the greatest number of relations in the low grades, lived in degenerate courts, and were consequently subjected to vitiating influences. Therefore, we must admit that thus far we cannot separate heredity from environment in the formation of moral qualities.

There is, however, another consideration which leads to the conclusion that what we have on Plate 2 and in our correlation figures is really much more inheritance than environment. I refer to the strong variations or contrasts which have constantly been found in those families who have been the most unfortunate in fostering many of the depraved type. In the house of Hanover we found an occasional black sheep in each generation, but these few, who were low in the moral grades, stood out in sharp contrast to the majority of the members. If the temptations of the highest social position with plenty of spending money were too much for George IV, and his brother the Duke of York, the same temptations worked no such effect on the other ten brothers and sisters. In the same way the houses of Bourbon and Romanoff, which have given us the greatest number of decided degenerates, also show strong contrasts to this type, and furnish a certain proportion in each generation who are entirely free from the taint.

It is these strong contrasts, more than anything else, that must lead us to the conclusion that what we have in Plate 2 is truly the effect of blood relationship, for environment should not cause this distribution. Spain, France, and Russia give us most of the degenerates. In

these countries the individuals are closely associated in blood with insanity, epilepsy, or other psychoses. This is itself a coincidence to be explained by those who doubt that morality is much the result of inheritance.

Besides this, we have to remember that in all these families, prior to the appearance of the moral depravity and mental unbalance as well, there had been a period when these countries were relatively free from the degenerate type. Why did the three heads of the Romanoff dynasty who lived before Peter the Great — in whose generation the psychoses first appeared -- exhibit such mild and amiable characteristics, although arbitrary rulers of an ignorant people, and living in the rudest epochs? Then, suddenly, contemporaneous with the appearance of the epilepsy and imbecility, we find such examples of moral depravity as the Empress Elizabeth. Strangely among the degenerates we find her sister Anne, "serious, cultivated, and virtuous." Heredity accounts for this by saying that Elizabeth took from the weak and unstable side of the family, while Anne was merely a reincarnation of her prudent and virtuous grandmother, Natalia Nariskin. A similar explanation is to be found over and over again wherever these strong contrasts occur among children of the same parents.

Some might contend that here in Russia rude conditions brought out strong types, both good and bad; but they would then have to explain why in Germany (Saxe-Coburg, etc.), even in the earliest times here traced, we find practically no such contrasts in character. They would also have to explain why in Spain and Italy in *recent* times, we also find a variation in moral character exactly like that found in Russia in the early eighteenth

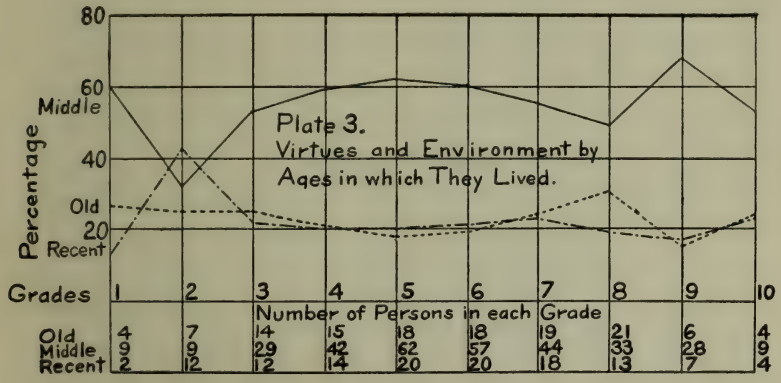
or in Spain in the sixteenth centuries. Thus if rude conditions be offered as a cause of the contrasts in character, it will not fit more than about half of the instances, while inheritance will account for them all. *When strong contrasts are found among the children, we always find strong contrasts among the ancestors.*

From the statistical standpoint I have added another method of attacking this same problem. We might expect in the old days, when the standards of morality were lax and manners were rough, that lawlessness and licentiousness would be found in a greater percentage than during more recent times, when it might be supposed unrestrained conduct would not be tolerated. In order to test the influence of the different epochs on the formation of moral character, I have made a count of the different grades from the lowest to the highest, relative to the period in which each person lived. All the centuries, from the eleventh onward, I have divided into three periods. The period prior to the year 1600 is here called "old;" from 1600 to 1800 "middle;" from 1800 onward, "recent." It can be seen on the chart (Plate 3) that all the different grades have about the same proportion in each age. About 60 per cent are in the "middle" period, 20 per cent in the "old," and 20 per cent in the "recent," no matter what grade we consider. In other words, we get no curves at all, but lines almost flat. The only irregularities are at the edges — (1), (2) and (9), (10) grades — and merely signify that here the instances are too few to make them group themselves in perfect harmony.

Thus we see that as far as these 600 odd persons are concerned, the change in public opinion, which we justly consider has taken place during the centuries, and which

we might expect would mollify the characters and control the unrestrained action of princes, has had no measurable effect upon them. It is not that royalty has degenerated, but rather that they have remained about the same. There have been royal heroes and altruists within recent years, and these existed in the same proportion to the whole even in the olden times.

I was somewhat surprised that the recent royalty should not give a better showing than the more ancient members;


80
60
40
20
Percentage
Middle
Old
Recent
Plate 3.
Virtues and Environment by
Ages in which They Lived.
Grades 1 2 3 4 5 6 7 8 9 10
Number of Persons in each Grade
Old 4 7 14 15 18 18 19 21 6 4
Middle 9 9 29 42 62 57 44 33 28 9
Recent 2 12 12 14 20 20 18 13 7 4

but this is because modern royalty, that is, from 1600 up to 1850, has such a large percentage of badly selected Bourbon blood in it. If we took royalty as it exists to-day, we should undoubtedly find a much higher one; but this is to be ascribed to the fact that most of the existing members are derived from Saxe-Coburg and other excellent German families. Up to 1850, France, Spain, Portugal, and Italy were full of Bourbon blood, and we have seen that nineteenth century demands or the awful example of predecessors had no effect on it.

The conclusion seems to be, therefore, that, even in the moral side of character, inherited tendencies outweigh the effects of surroundings, for the reason that, applied to all the characters, heredity is able to explain almost every one, — there being but a slight error from the expected, — while environment will only explain a relatively smaller number. I think we can conclude from this that in each individual, inheritance plays, in the formation of morality, a force greater than 50 per cent. Other considerations enable us to go even farther than this. The correlation coefficients, as found on pp. 282–3, give no indication that heredity is any less strong for moral attributes than for mental. The comparison between maternal and paternal grandsires is significant. Offspring resemble their maternal grandfathers as much as their paternal. Here we test the resemblances under diverse conditions of environment, the conditions of heredity remaining the same, yet we find no weakening of the latter force. Such a result is surprising, for it does seem improbable that environment has *no* influence in the determination of temperament, behavior, and virtue in general; and there is, of course, an ingrained popular belief that it has.

There is, perhaps, some scientific evidence indicative of the direct effect of surroundings, the inherited influences remaining the same. Among plants and the lower forms of animals, especially the invertebrates, many experiments have shown the remarkable changes which may be directly induced by changes in the outward conditions of life. *These are in general the more striking the lower we go in the scale of organic evolution*, so that it may well be that in the *highest attributes, namely, mental and moral, we can expect the least results from outward forces.* This

hypothesis may prove a veritable generalization throughout the animal series.

Evidence, such as it is, of the direct effect of environment upon morality is not wanting. Under such a head come the accounts more or less authenticated of young children carried away by animals into the jungles of India, living to grow up in the wild state, and never possessing more than animal instincts themselves.* Again, charitable institutions for the young can furnish figures which seem to show the direct effect of their wise administrations in reclaiming the children from the slums; but these figures never give us a true method of comparison between what the results are and what they should be, as expected from heredity worked out by higher mathematical methods. Many of these children may have been illegitimate, and the sons of fathers belonging in the middle or upper classes. We must first know how many are of this sort. Then there are other sources of error. If a certain percentage are lost sight of before they complete their lives, we do not know whether these go to the bad or not. Presumably they do if they cannot be traced; but we do not know just what proportion, and we need to know all these facts accurately. All I can say is, that I have made several tests to find a measurable influence of environment apart from inheritance, and have failed to find it in this research.

We have yet another reason for feeling skeptical about the much vaunted influence of surroundings. The argument which I am about to adduce is drawn from consideration of this immediate question in connection with another question, namely, "the inheritance of acquired

* Ripley, "Racial Geography of Europe."

characteristics." Whether characteristics acquired from the influence of the environment are inherited or not, no one pretends that they are so inherited more than in a very slight degree. Hence, if all the variations which we have observed among children of the same parents are due, not to differences in the germ-cells (the writer claims they are due to differences in the germ-cells), but are principally the result of surroundings, as is assumed by some psychologists and educators, then these differences observed among children of the same parents should not be clearly manifest in the various branches which subsequently arise from these children who vary much one from another. To make this matter clearer, it has been shown throughout the book that *selection* appears to be of the most vital importance. It was only the great names among the Montmorencys who were the ancestors of the greatest of the Condés. In the house of Hanover we find in the children of George I, a son, George II[8], of inferior qualities, and a daughter, Sophia[9], of very superior qualities. The immediate descendants of George II[8] remained mediocre, while those of his sister Sophia[9] (Frederick the Great, etc.) were, some of them, in the highest grade. The Hapsburg "lip," the Bourbon insanity, and, in fact, every marked trait or strong deviation, has been shown to be transmitted in accordance with *selection*.

This all holds together in a perfect way, if we consider that the strong variations were themselves congenital (*i.e.*, preformed in the earliest embryonic stages), and not subsequently determined by effects from the environment. The only other way accounting for the fact that variations among the children of the same parents sub-

sequently breed true in the different stems which arise from these children, is to assume that acquired characteristics are strongly inherited. As no one supposes that mental traits acquired from the environment *are* strongly inherited, we are forced to the conclusion that the original variations themselves are not acquired from the environment, but congenital. It will not do to say that environment has an exceedingly important effect upon the individual, although not greatly inherited. These two views, if coupled, will not hold together and explain the facts. If we renounce the inheritance of acquired characteristics, and at the same time consider the individual himself to be almost entirely the result of congenital causes, these two views *will* hold together and sufficiently explain the facts.

In the lower forms of animal life we know by actual experimentation that slight changes in the environment occasion the greatest differences in results; still, in spite of the strange modifications that may be occasioned in the developing fish or frog by external mechanical or chemical means, the question resolves itself under ordinary conditions to the nature of the primary germ-cells. If a naturalist were stocking two tanks, one for fishes and one for frogs, and had eggs of both to use for that purpose, the first practical question for him would be: Which are the eggs of fishes, and which are the eggs of frogs? It is just so in the development of the human mind. As far as the practical results are concerned, the

one bit of knowledge, the possession of which will best enable us to predict the fully developed adult, is an answer to the same sort of question as that we would first wish to know in the case of the fishes and the frogs. What is the nature of the primary germ-cells? Since for obvious reasons we cannot know this nature, the next best thing to know is its theoretical probabilities as derived from a proper study of the ancestry.

It would seem from the facts studied in the foregoing chapters that the probabilities will be roughly as given below. *Quality possessed by entire ancestry is almost sure to appear. Quality possessed by one parent and half the ancestry is likely to appear with almost equal force, in one out of every two descendants. Quality possessed by one parent only, and not present in the ancestry, has one chance in about four for its appearance in the progeny. Quality not possessed by either parent, but present in all the grandparents and most of the remaining ancestry, would also have about one chance in two for its appearance in one of the children. If only one of the grandparents possessed the quality in question, then the chances of its appearance in any one of the grandchildren of this ancestor would be only about one chance in sixteen.* It would be, however, very unlikely that some of the remote ancestry had not also the quality in question, so the chances would be raised in a greater or less degree according to the proportionate amount of this remote influence.

The above estimates for the characteristics of offspring are in accordance with Galton's law of ancestral heredity, except that provision is made for the fact that *mental and moral qualities do not freely blend, so that a child is apt to "take after" rather completely some one of his ancestors,*

more often the near one, less and less often the remote one, until the chances of reversion to a very distant one are exceedingly slight.

Once in a large number of times occurs one of those fortuitous * combinations of ancestral qualities that is destined to make a person inheriting them vary much from any of his kin, and in fortunate instances shine as a genius, springing from a mediocre stock. The figures drawn from Lehr's "Genealogy" were about one in five hundred for this sort of occurrence.

At this point it may be well to consider a popular misconception concerning the value of hereditary influence — a mistake very frequently made. Many people argue that great geniuses, coming as they frequently do from humble families, Franklin and Lincoln for instance, discount our belief in mental heredity; when, on the other hand, these men should only strengthen our reliance in this same force. We should consider the thousands, indeed millions, of mediocrities, who have to be born from mediocrities, before one mind of the type of Franklin's is produced. That they rise superior to their circumstances is in itself a proof of the inborn nature of their minds and characters. A man of this sort represents a combination of the best from many ancestors. It would be possible in a great many throws to cast a large number of dice so that they would all fall aces. But here in certain regions of royalty as among the Montmorencys and Hohenzollerns where the dice are

* It is to be remembered that when we speak of chance as a cause of the combinations of characteristics, that even the throwing of dice or pitching of pennies is entirely subject to the laws of mathematics, as has been abundantly proved by experiments. (*Conf.* K. Pearson, "Chances of Death," etc.)

loaded, such a result may be expected in a large percentage of throws.

Intermarriage

The enervating effect of luxury and the frequency of intermarriages are the two causes which, to the popular mind, are considered paramount in producing such degenerations as are notorious in certain royal families. The first of these two theories has already been shown untenable; the second must share a similar fate. It is not alone among degenerate families like Spain and Portugal that one finds wedlock among the near of kin. Such intermarriages are apparently equally common in families which have given us the highest mental and moral grades, namely, Saxe-Coburg-Gotha, Hohenzollern, and Nassau-Dietz. The parents of Frederick the Great and his remarkable brothers and sisters were own cousins. The great Queen Isabella came from strongly inbred ancestry, and Ernest the Pious is many times in the pedigree of the excellent house of Saxe-Coburg-Gotha. Furthermore, we may state that the Romanoff degeneracy and Swedish eccentricities were neither caused nor perpetuated by the close marriage of kin. This all agrees with the generally accepted scientific opinion, though not with the popular notion.*

Royalty and Mankind in General

In closing this book, it is worth while to reiterate the statement I have so often made, — that there is no degeneration in modern royalty to be ascribed to their exceptional and exalted position *per se*, that degeneration has only occurred in certain branches, and may always be

* *Conf.* Huth, "Marriage of Near Kin." 8vo, pp. 475. London, 1887.

explained by pollution of the blood of the male line through marriage with a family in which a degeneration was then existing, or some constant artificial selection of the worst types rather than the best. While some branches were deteriorating, others equally blue-blooded (Prussia, Saxe-Coburg-Gotha, Nassau-Dietz, Mecklenburg, Denmark, Austria, and Modern Portugal) were holding their own, or actually rising in mental and moral tone.

If we compare the eight hundred odd persons who form the main body of this study with the world in general, we cannot but be struck with the relatively large number of exceptional geniuses who have from time to time appeared in their genealogical charts and have taken their places as actual and undisputed leaders in many of the greatest movements in European history. Among the men alone, there are twenty-five in grades (9) and (10). These men are the bearers of names of unquestioned distinction, names of geniuses who stand without superiors in the practical domains of war and government. Where else could we take eight hundred interrelated names at random and find twenty-five world geniuses? There is no doubt but that modern royalty, as a whole, has been decidedly superior to the average European in capacity; and we may say without danger of refutation, that the royal breed, considered as a unit, is superior to any other one family, be it that of noble or commoner.

This is all to be expected. Men of ambition seek power. In the generations long ago, soon after the downfall of Rome, in the age when modern royalty was forming into a distinct class, the natural leaders, the strongest,

came to the front and made themselves kings. They married only among their own kind. They waged wars one with another, leading to a survival of the fittest; and all along down the line their exclusive ranks were recruited with fresh grafts, always in the nature of vigorous personalities who won their way into the royal fold. The very formation of royal families was thus a question of selection of the most able in government and war. From their intermarriage with their own kind, in connection with the force of heredity, we find an explanation of their relative superiority over the masses whom they governed and a reason why, until within a century or so at the most, great men continued to appear among their ranks. Of course, without an artificial selection and without fresh grafts from outside, royalty must slowly regress towards the average of mankind; and it does seem, judging from the relative absence of great kings during the last century, as if this condition could already be discerned.

The greater survival of the morally superior and the correlation between mental and moral qualities, disclosed in the former chapter, would,however, always tend towards raising their average, if *all* be considered as a unit and if all branches of descent be traced out, though great and exceptional geniuses might be less frequently expected.

To the minds of some, a theory of the preponderating influence of heredity is but a gloomy and pessimistic outlook. It is true that on this view we can do but little for the individual once born into the world, and are

> " But helpless pieces of the Game He plays
> Upon this chequer-board of Nights and Days."

And yet this same view of heredity, when looked at in its bearings on the future condition of the human race as a whole, far from being pessimistic, is on the contrary an actual basis for optimism; for we have found among royal families the morally superior surviving, and in the inheritance of mental and moral excellence we see ground for a belief in the necessary progress of mankind.

APPENDIX

KEY TO THE BIBLIOGRAPHY

References for each Individual

The numbers in square brackets refer to individuals mentioned in the text or charts. The numbers for "obscure" persons are omitted. The bold-face numbers refer to the books included in the bibliography following. Volumes and pages are indicated by Roman numerals and small type respectively.

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